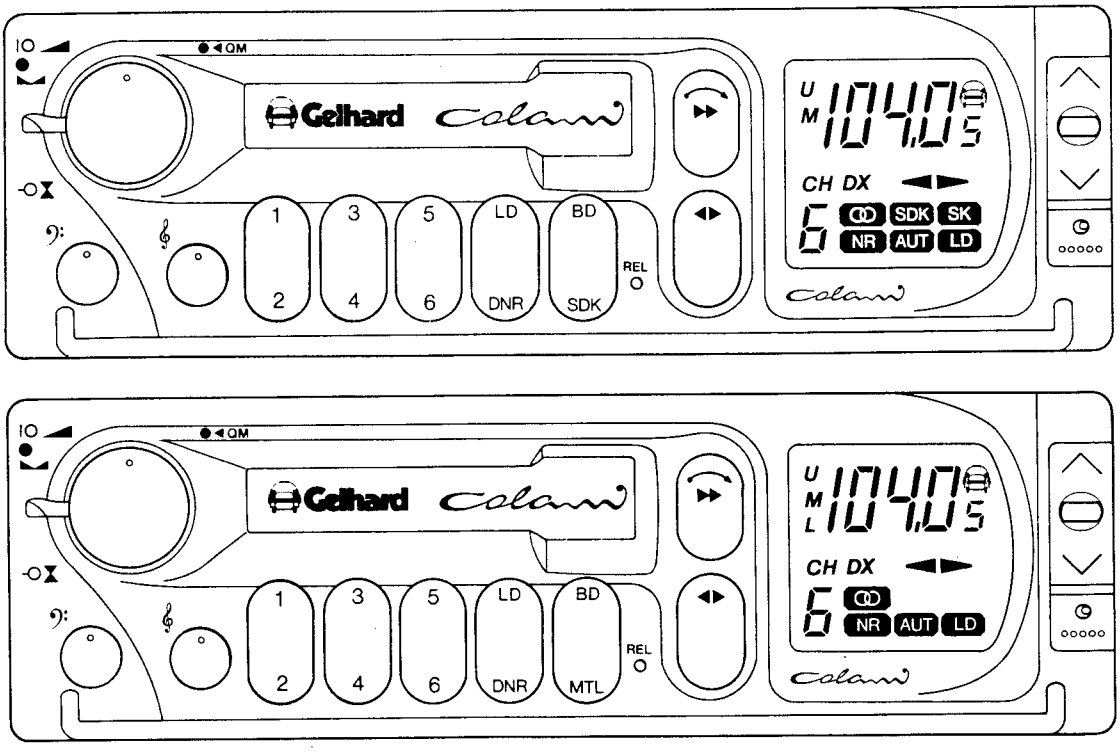
SERVICE MANUAL

GXR LC1/GXR LC1X

CASSETTE CAR STEREO WITH FM, MW, (LW) ELECTRONIC TUNER. PLL, (SDK) / LOUDNESS FUNCTION



Gelhard®
West Germany

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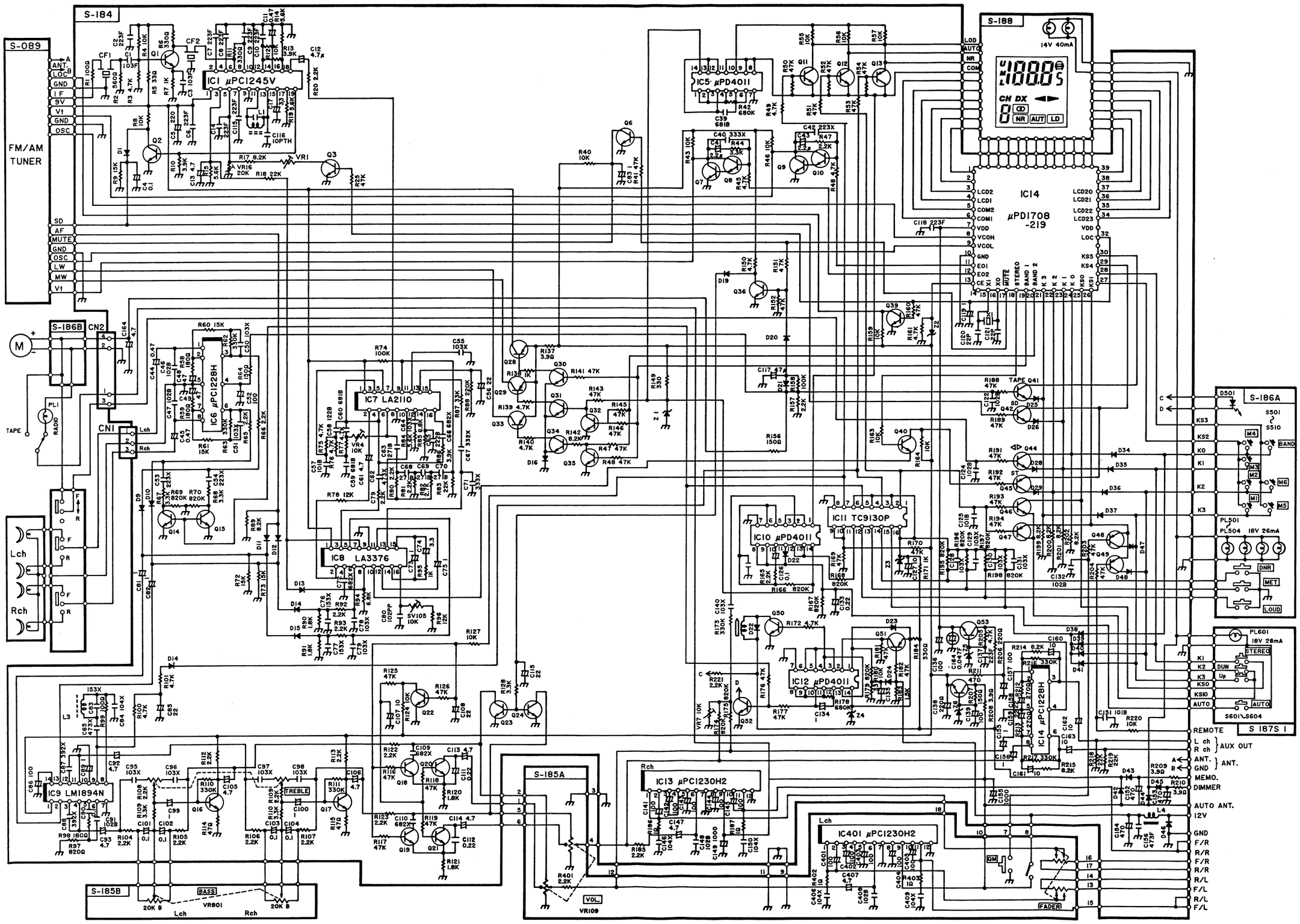
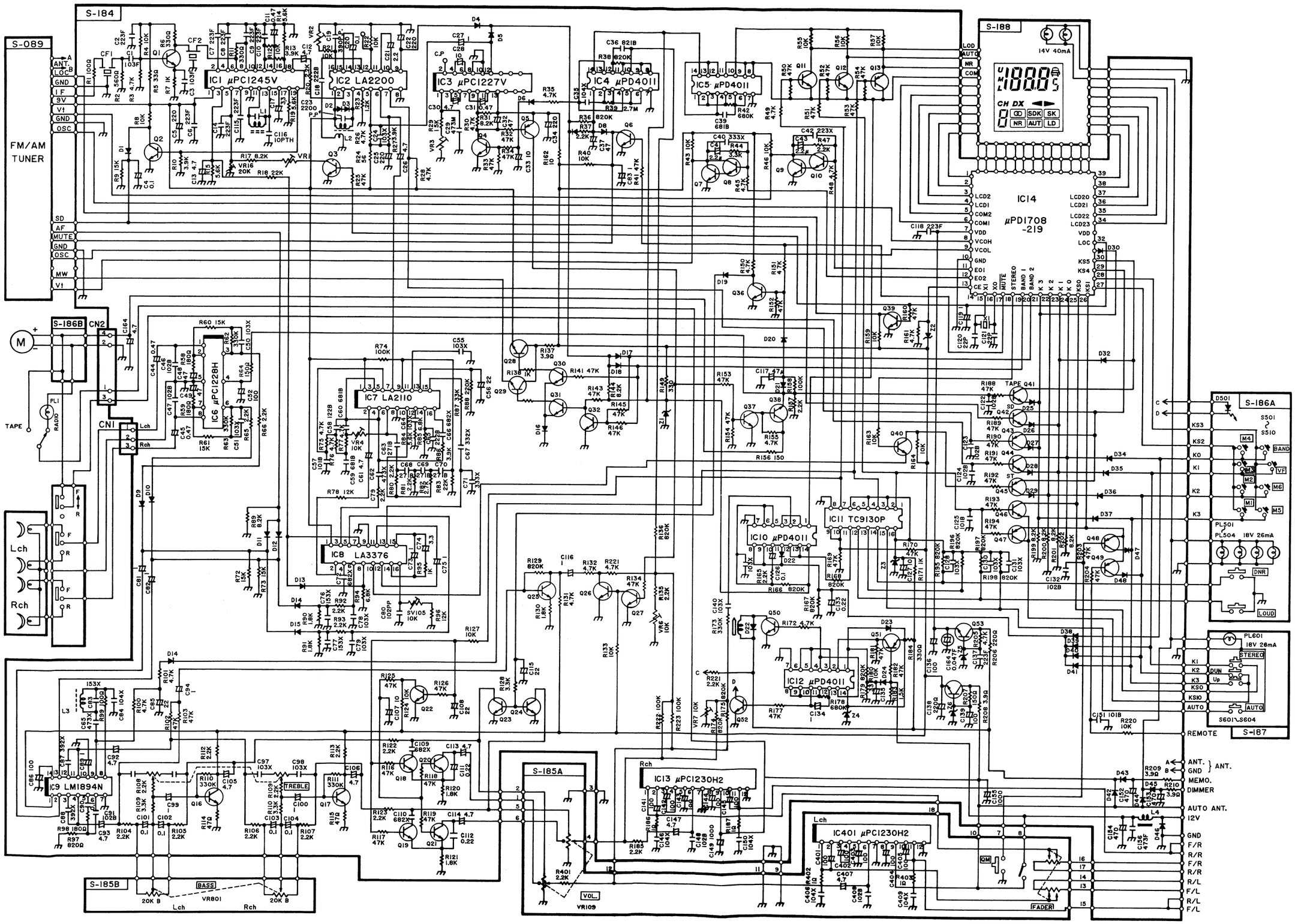
MEMO

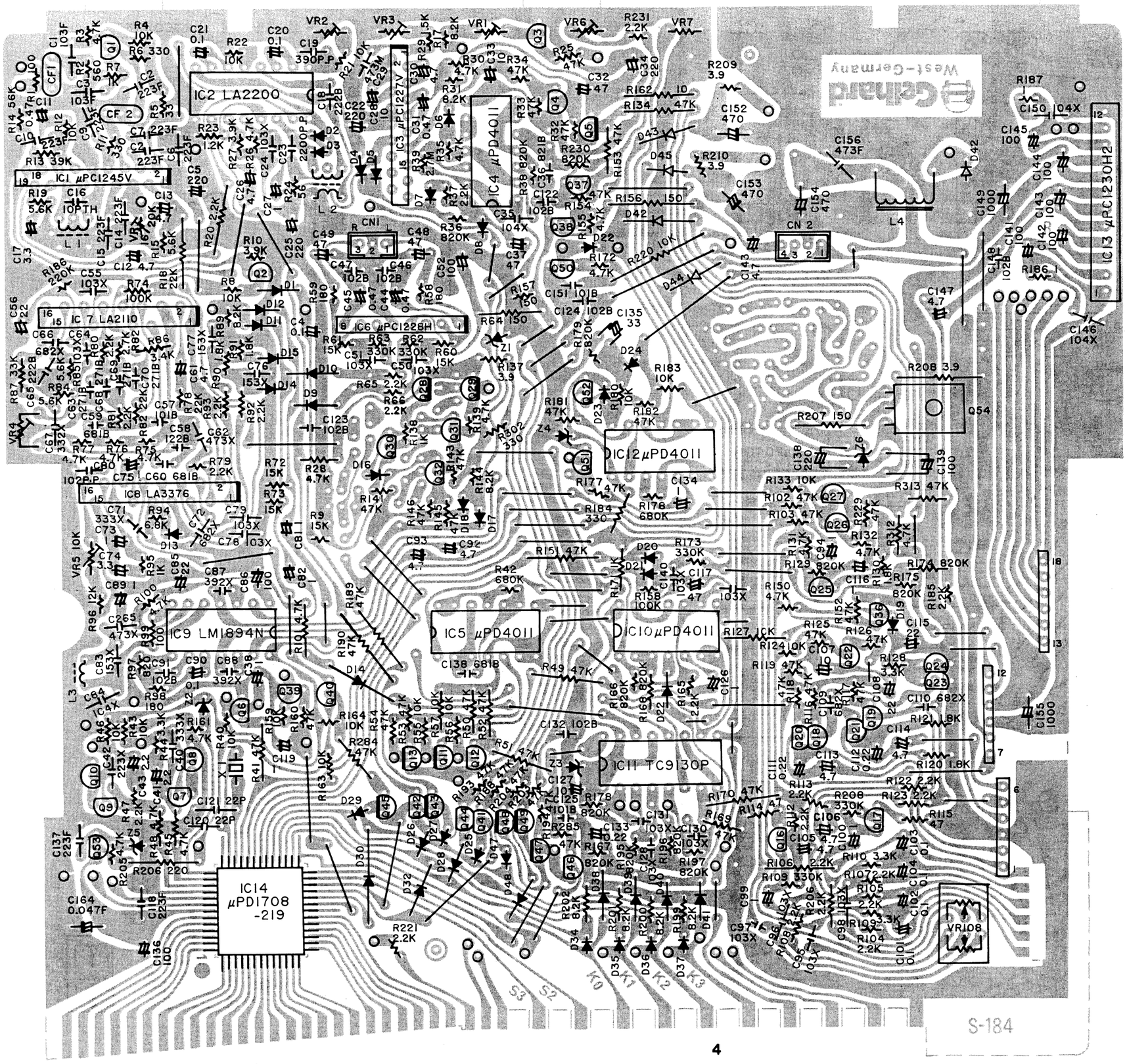
SCHEMATIC DIAGRAM MAIN P.C.B. GXR-LC1

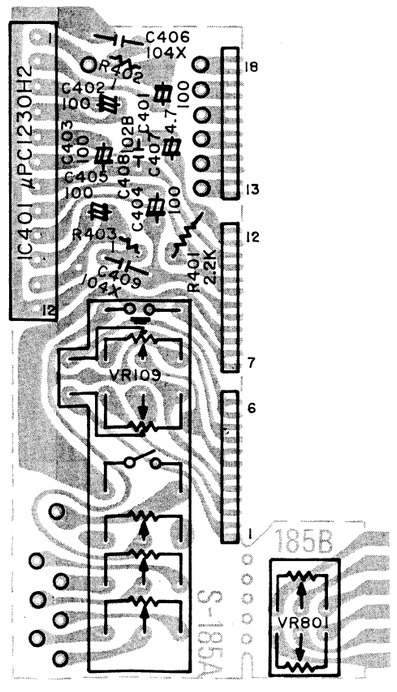


SCHEMATIC DIAGRAM MAIN P.C.B. GXR-LC1X



PARTS LOCATION MAIN P.C.B. GXR-LC1





Q1
2SC2787

Q151
2SC2002

2SC2785

2SA1175

1SI588

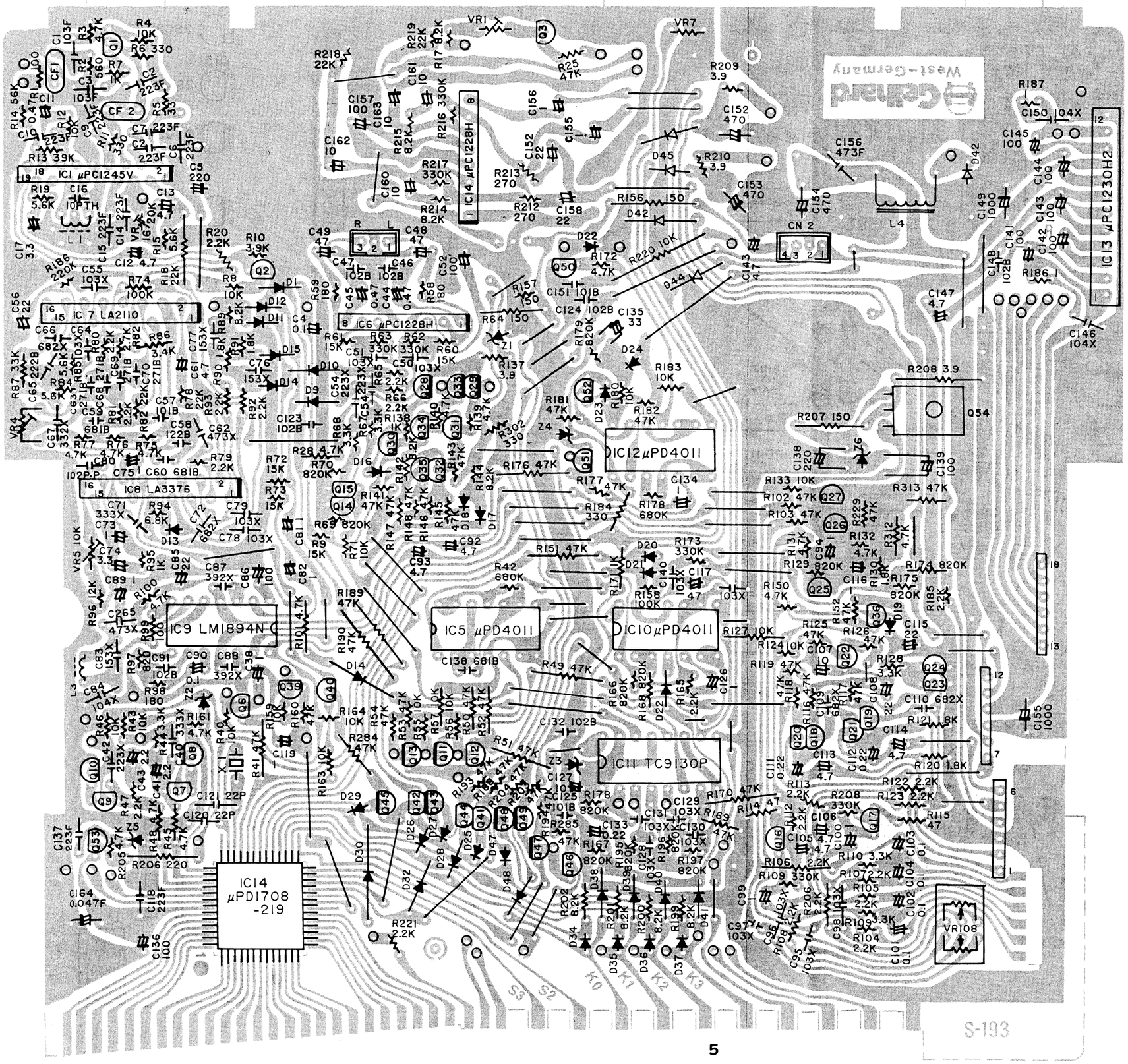
SRIK-2

Ω

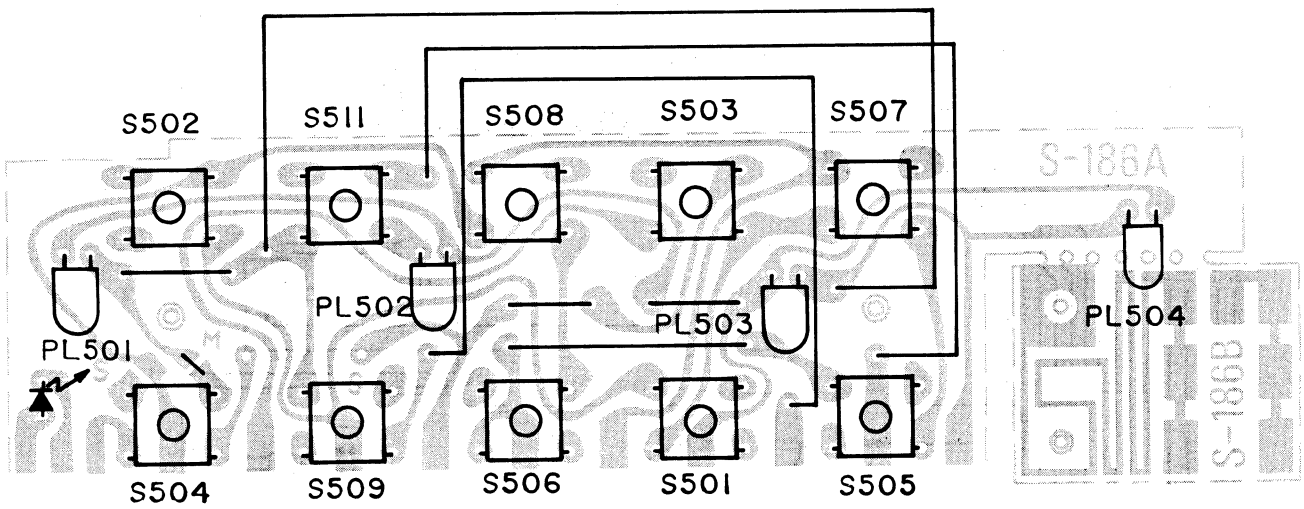
μF

μF

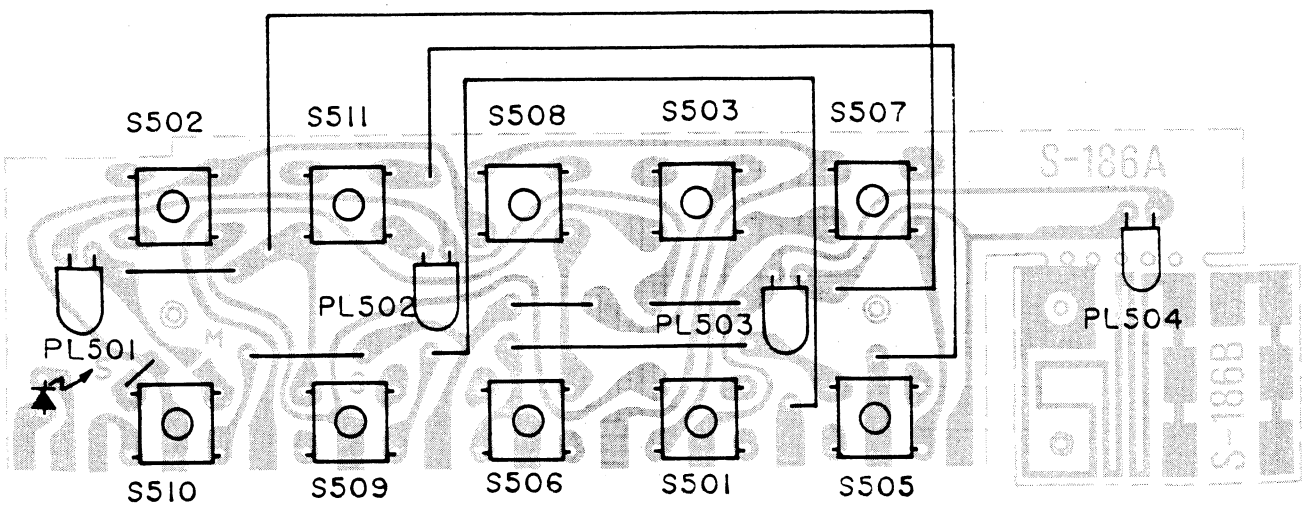
PARTS LOCATION MAIN P.C.B. GXR-LCIX



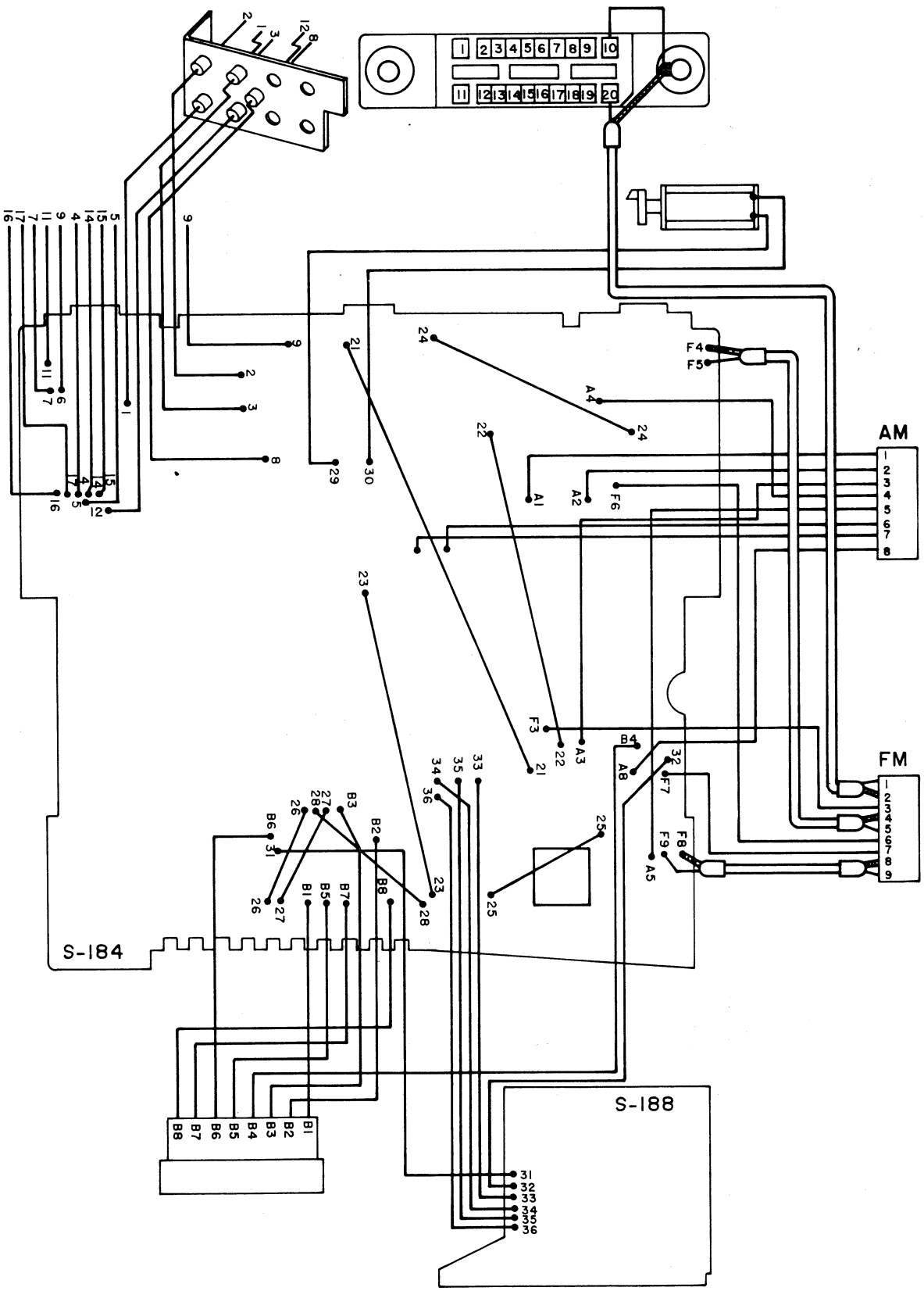
PARTS LOCATION FRONT SUB P.C.B. GXR-LCI



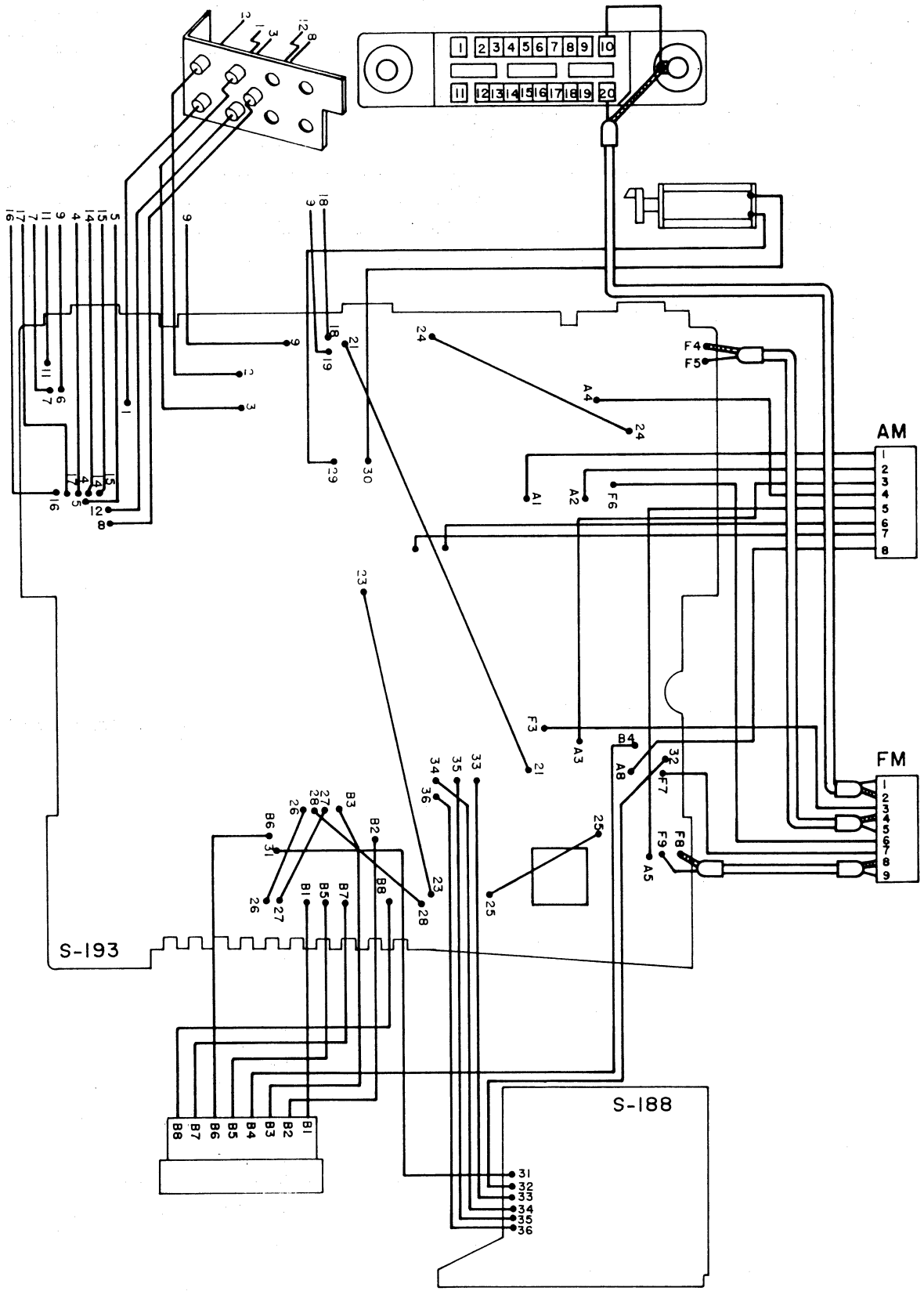
PARTS LOCATION FRONT SUB P.C.B. GXR-LCIX



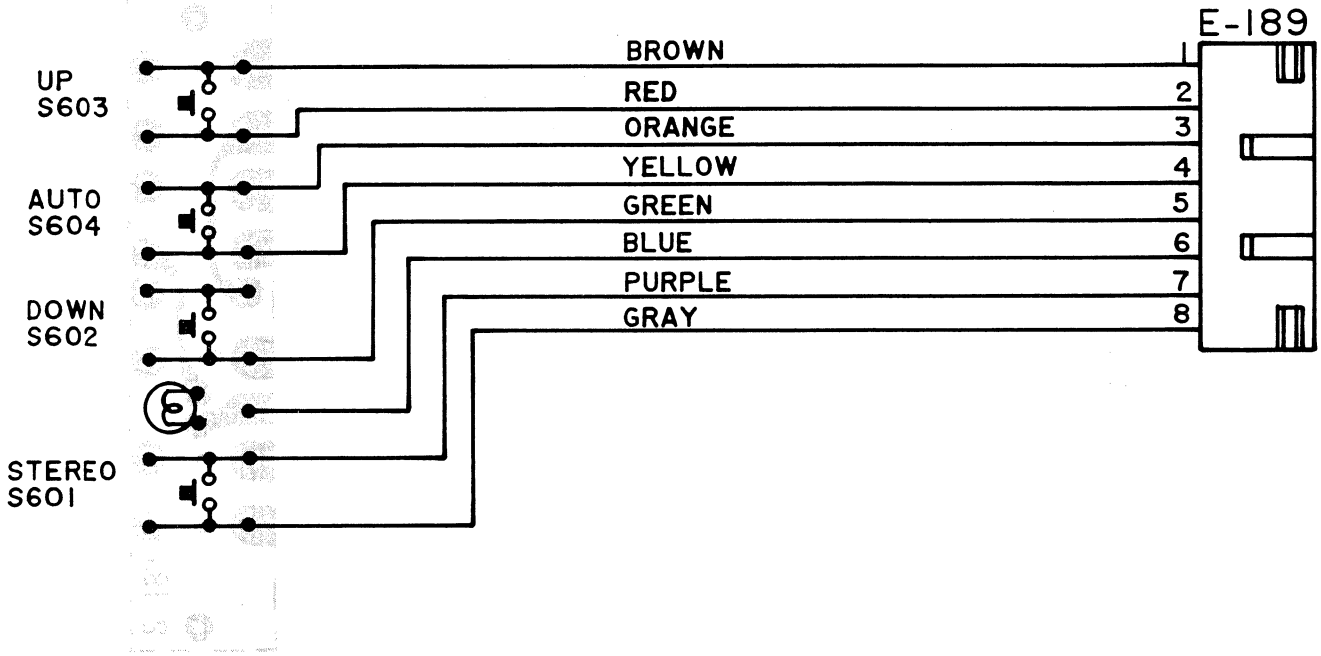
WIRING DIAGRAM MAIN P.C.B. GXR-LC1



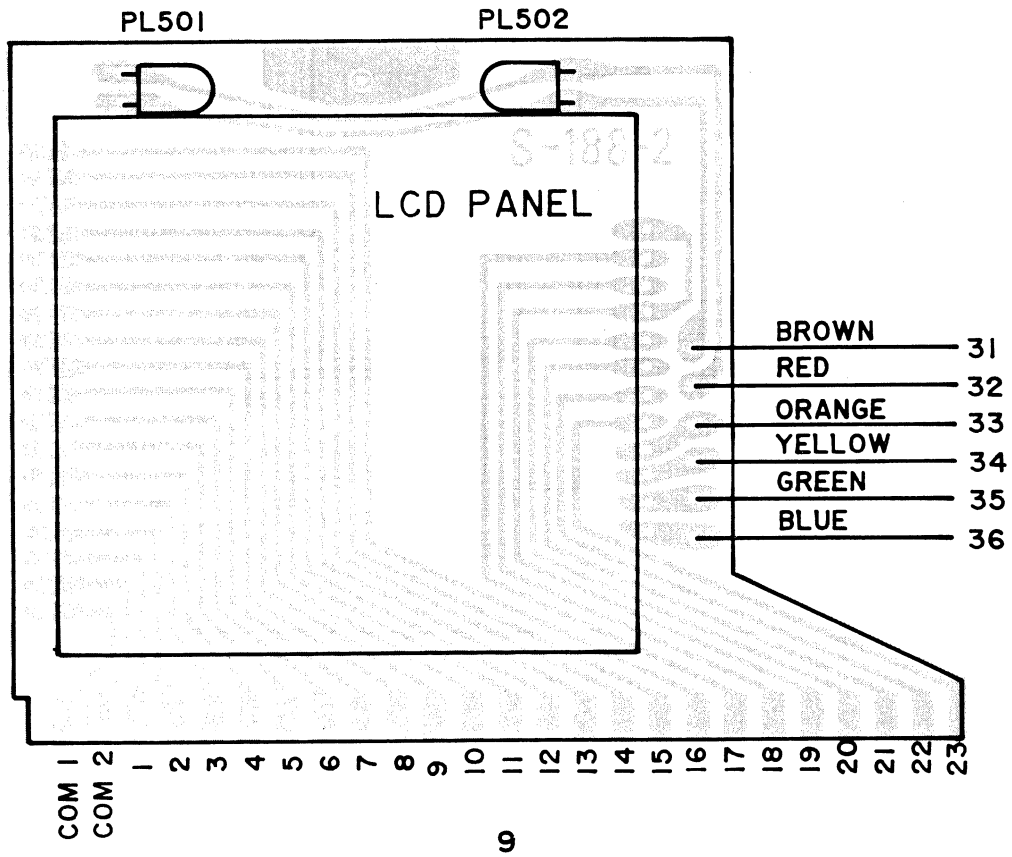
WIRING DIAGRAM MAIN P.C.B. GXR-LCIX



PARTS LOCATION TUNING SUB P.C.B.



PARTS LOCATION LCD SUB P.C.B.

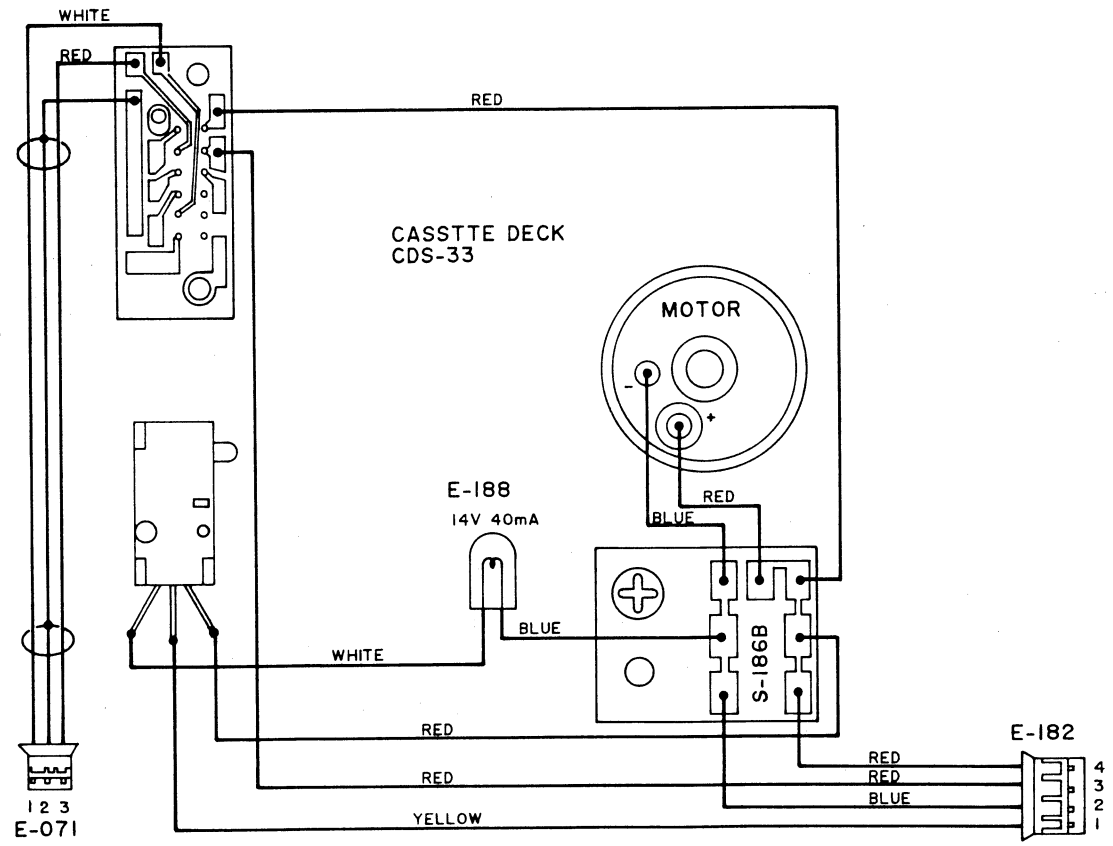


KEY MATRIX CONFIGURATION PLL IC

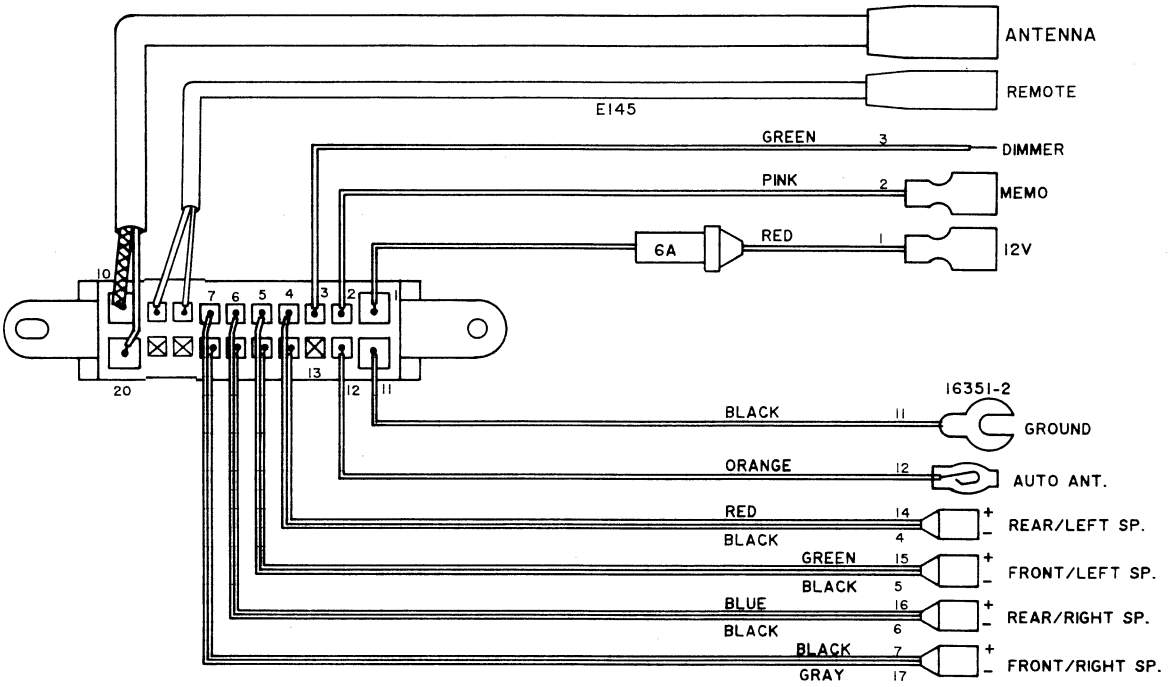
μPD 1708G-019,1708G-219

	K3 (21)	K2 (22)	K1 (23)	K0 (24)
KS0 (25)	MANUAL UP	MANUAL DOWN	STEREO	RECALL
KS1 (26)	SEEK UP	SEEK DOWN	SCAN UP	PRESET SCAN
KS2 (27)	M 1	M 2	M 3	M 4
KS3 (28)	M 5	M 6	V F	BAND
KS4 (29)	S K	S T	S D	TAPE RUN
KS5 (30)	TAPE	AREA 0	AREA 1	AREA 2
KS6 (31)	V F SEL	CLOCK	IF0	DSPSEL

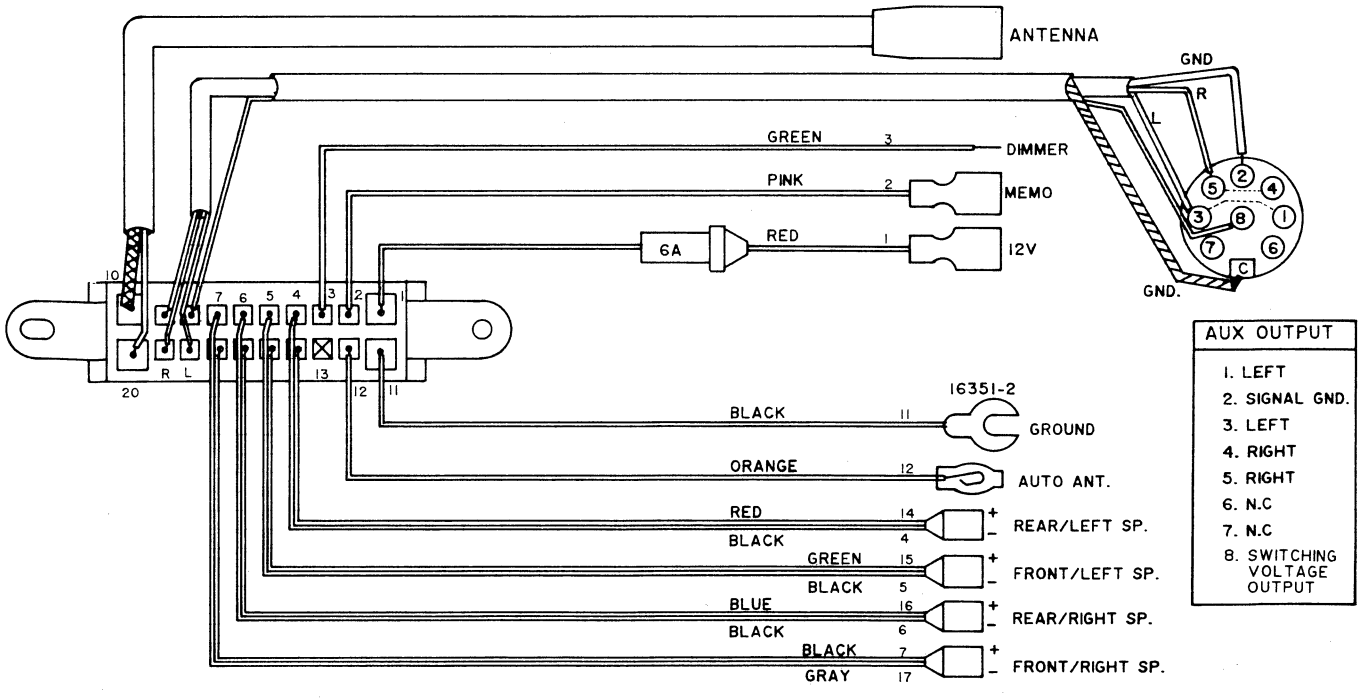
WIRING DIAGRAM CASSETTE DECK



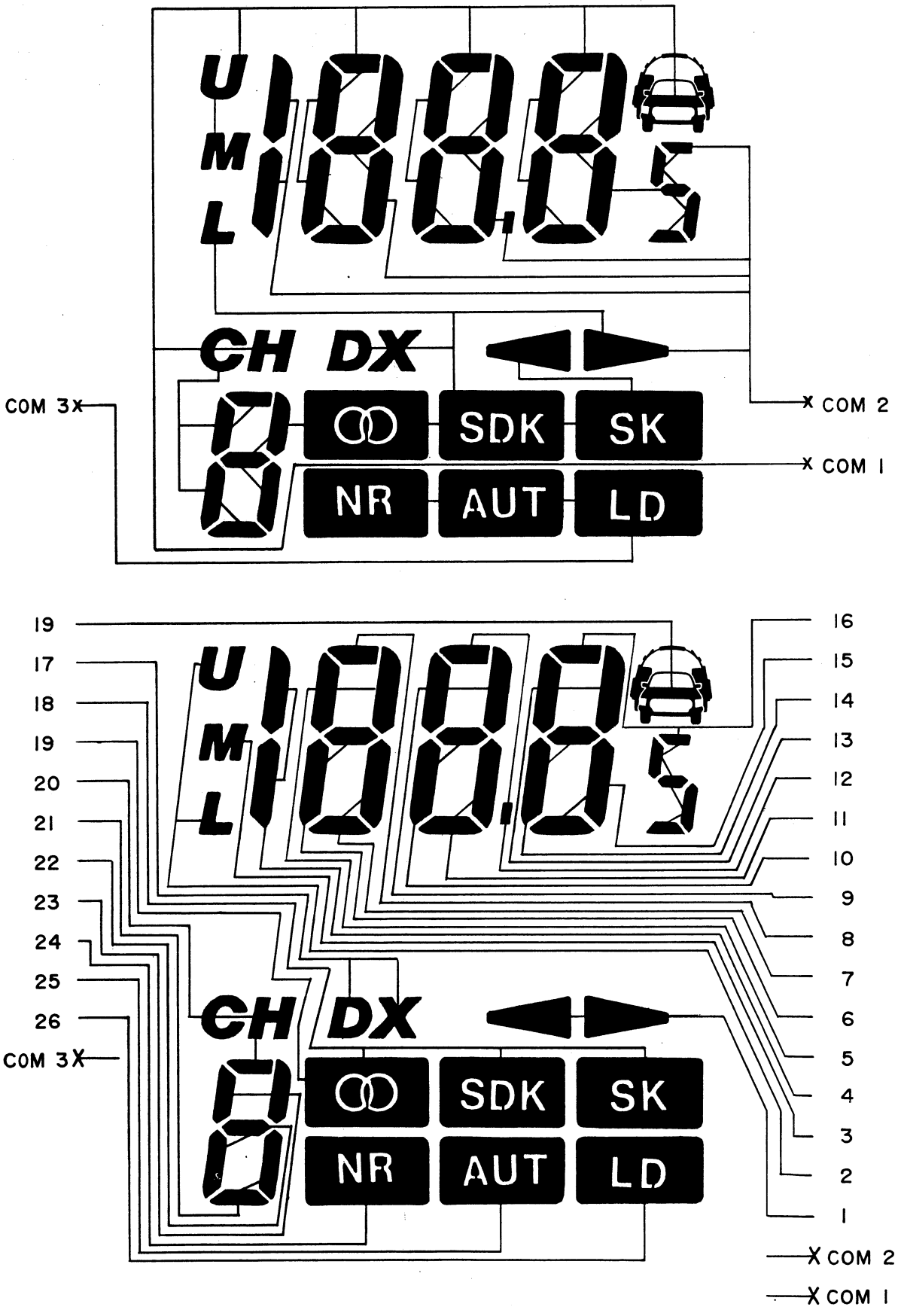
WIRING DIAGRAM CONNECTOR GXR-LCI



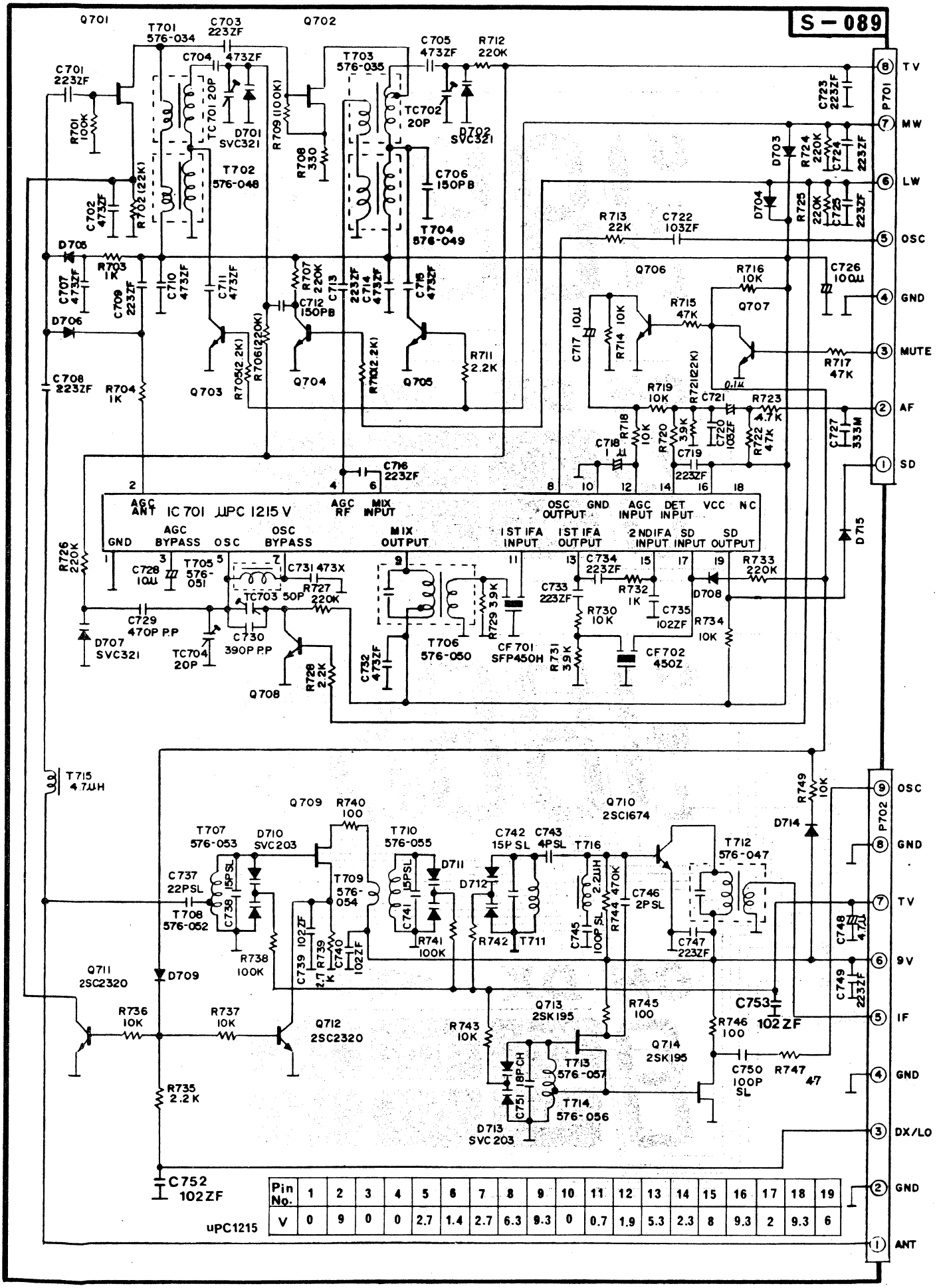
WIRING DIAGRAM CONNECTOR GXR-LCIX



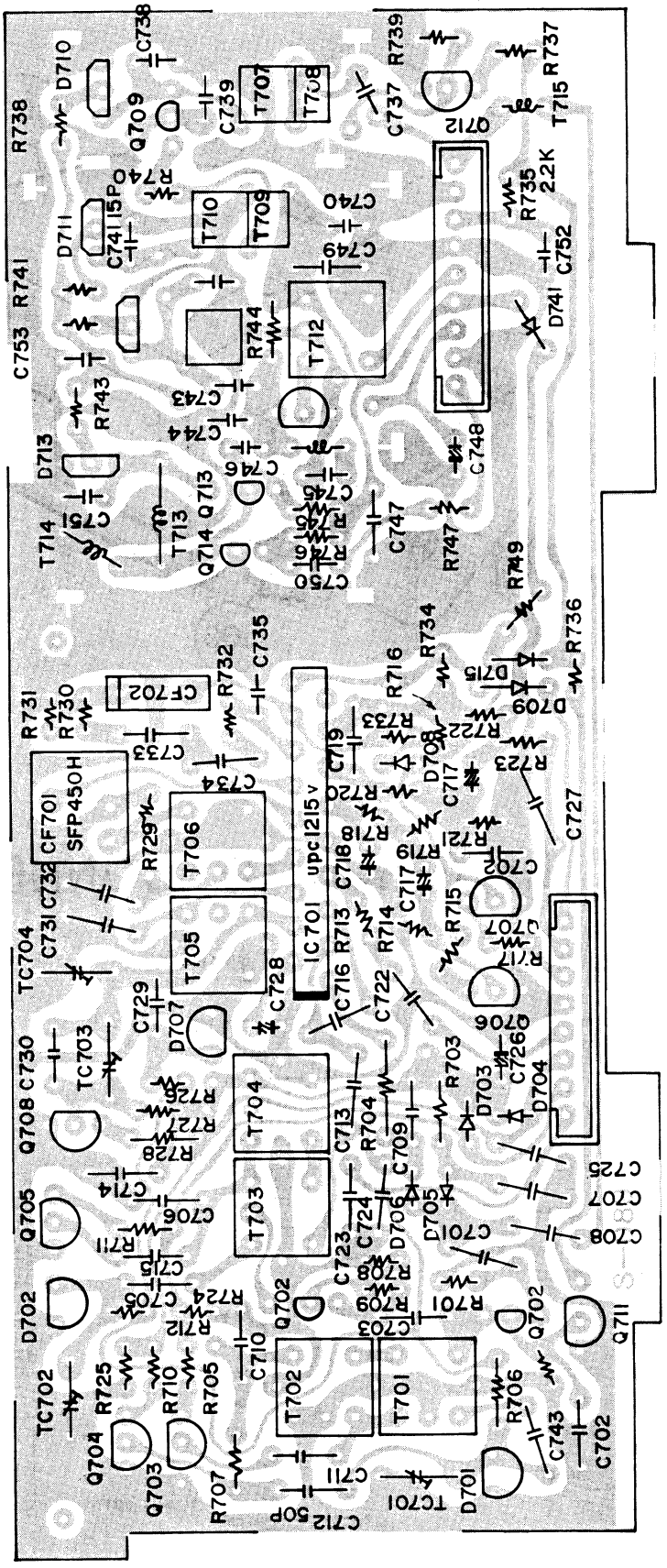
WIRING DIAGRAM LCD



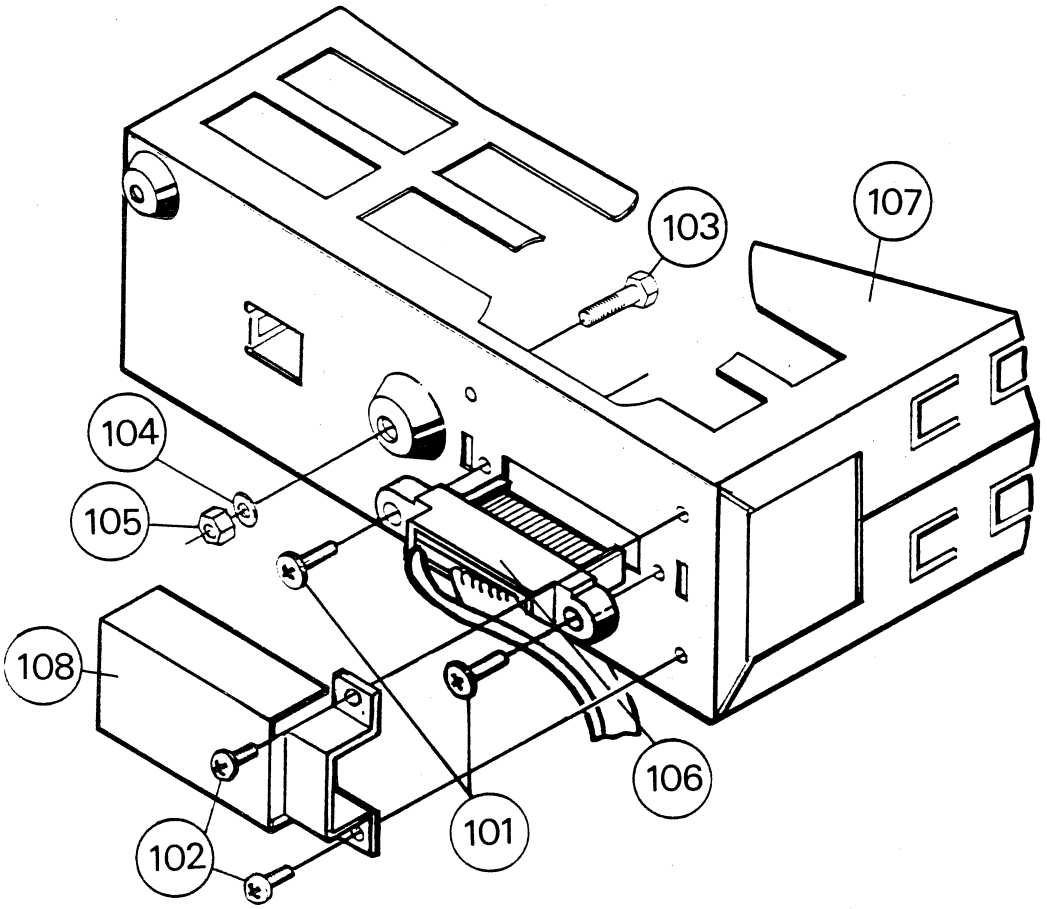
SCHEMATIC DIAGRAM TUNER P.C.B.



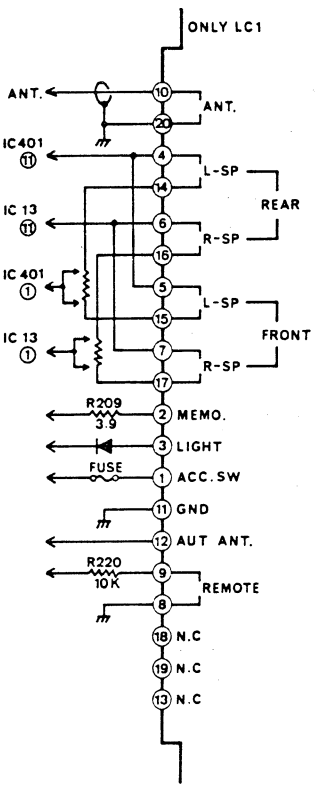
PARTS LOCATION TUNER P.C.B.

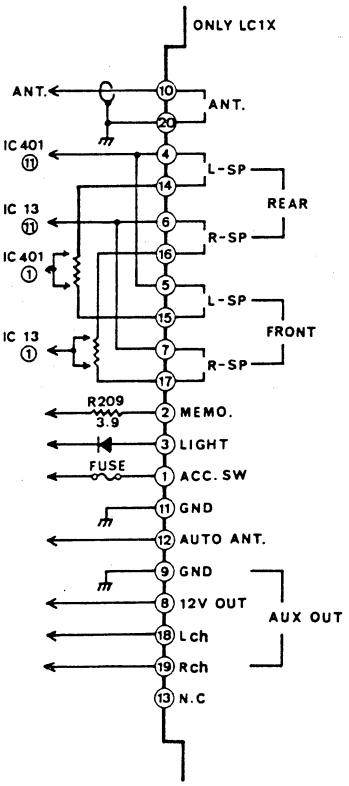


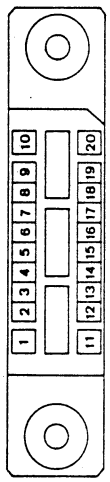
EXPLODED VIEW BRACKET



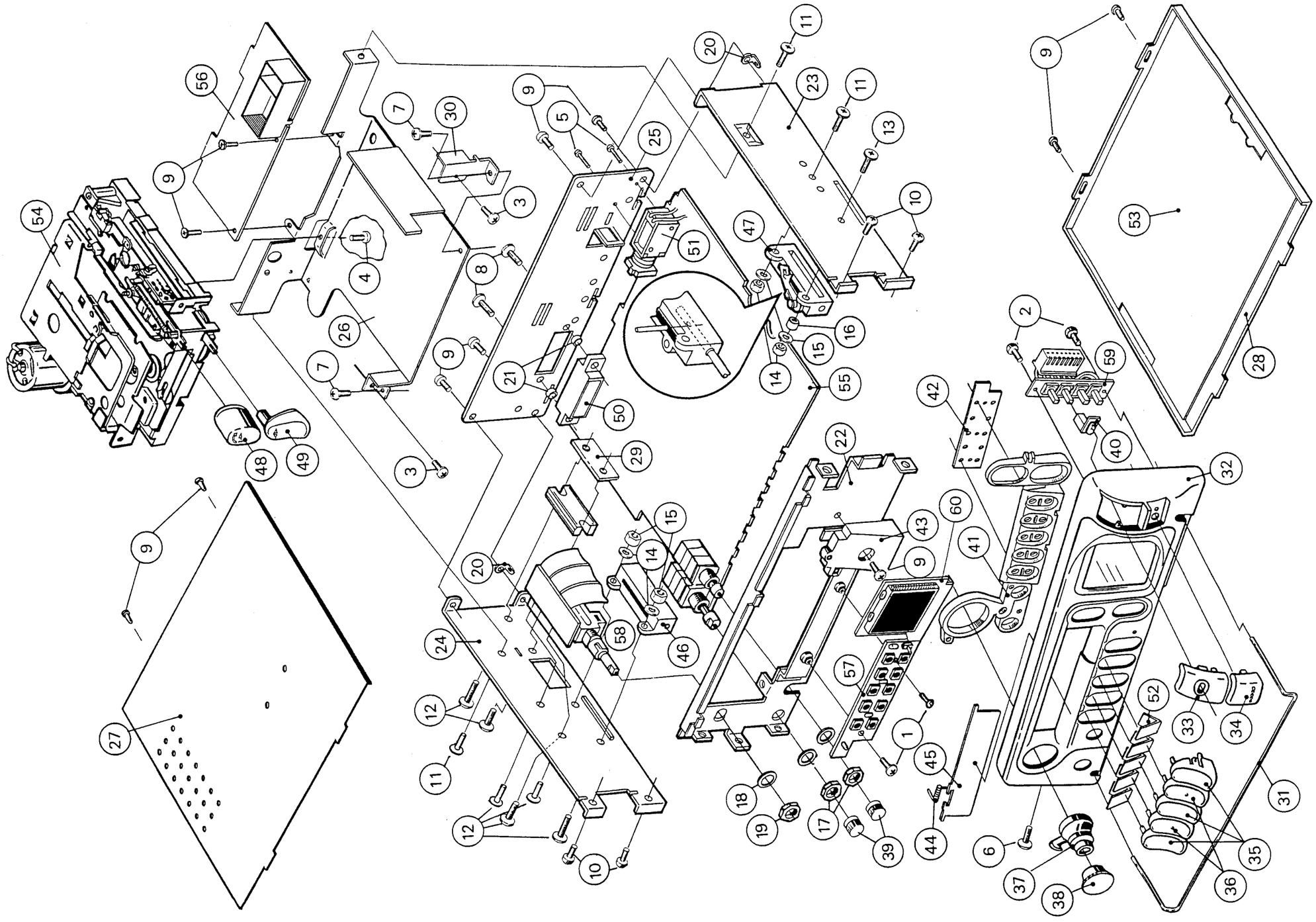
SCHEMATIC DIAGRAM OF CONNECTORS



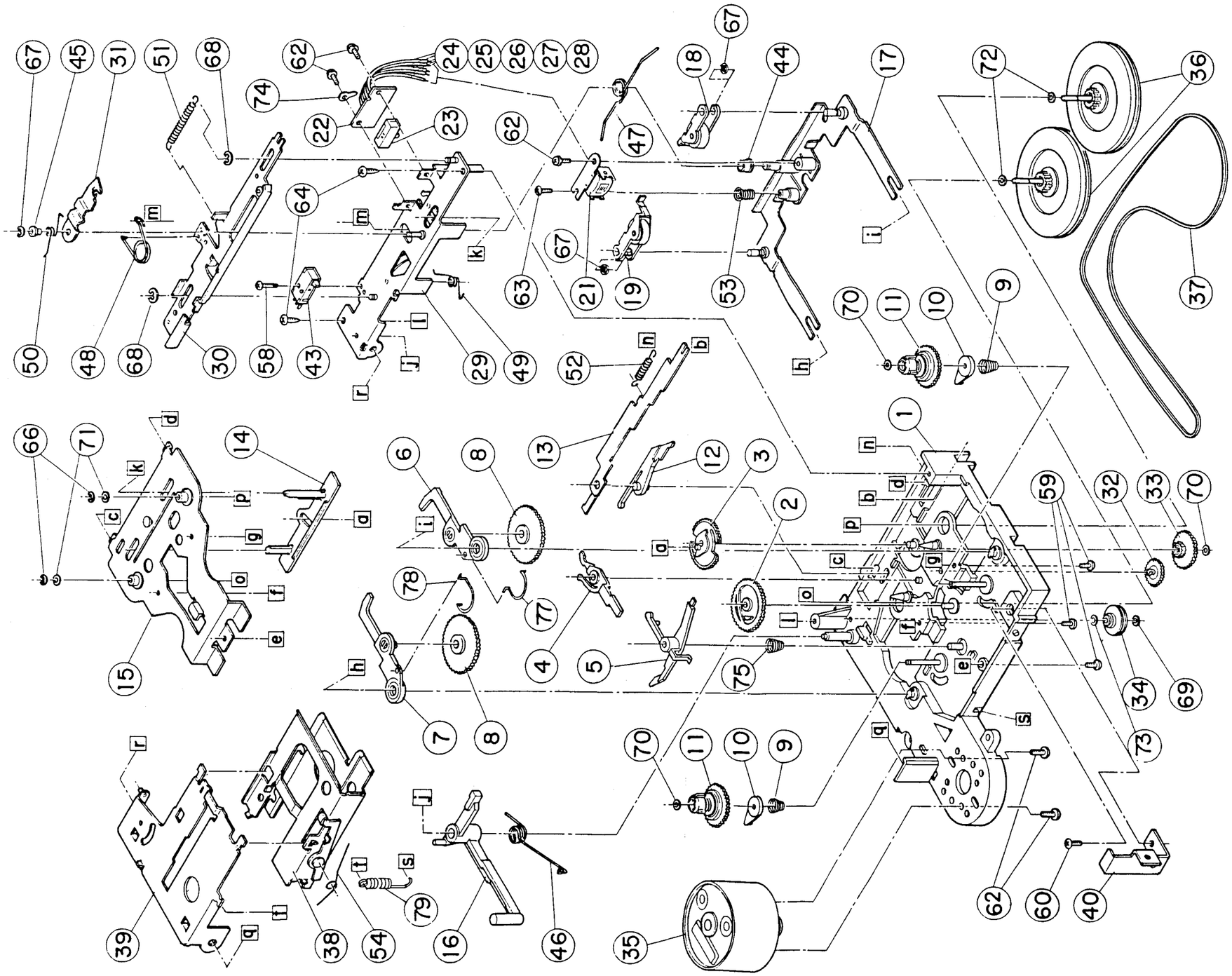




EXPLODED VIEW GENERAL



EXPLODED VIEW MECHANISM



PARTS LIST MECHANISM

Ref.No	Part No.	Description	Q'ty
1.	3-0033-604	ASS'Y MAIN BASE	1
2,	1-0033-208	GEAR CAM	1
3,	1-0033-216	GEAR SELECT	1
4,	1-0033-214	ARM GEAR LOCK	1
5,	1-0033-215	ARM DETECTOR	1
6,	1-0033-202	T. U. ARM (R)	1
7,	1-0033-203	T. U. ARM (F)	1
8,	1-0033-207	T. U. GEAR	1
9,	1-0033-207	SPG BACK TENSION	2
10,	1-0033-213	CAM DETECTOR	2
11,	3-0033-611	ASS'Y RELL SPINDLE	2
12,	1-0033-206	RATCHET	1
13,	1-0033-102	LEVER PROGRAM	1
14,	1-0033-218	REVERS ARM	1
15,	3-0033-607	ASS'Y CAPSTAN BASE	1
16,	1-0033-201	ARME EJECT	1
17,	3-0033-608	ASS'Y HEAD BASE	1
18,	1-0033-609	PINCH ARM ASS'Y (R)	1
19,	1-0033-610	PINCH ARM ASS'Y (F)	1
20.	———	———	—
21,	1-0033-702	HEAD	1
22,	1-0033-701	SWITCH P. C. B.	1
23,	1-0033-703	HEAD SLIDE SWITCH	1
24,	1-0033-705	LEAD WIRE (A)	1
25,	1-0033-706	LEAD WIRE (B)	1
26,	1-0033-707	LEAD WIRE (C)	1
27,	1-0033-708	LEAD WIRE (D)	1
28,	1-0033-709	LEAD WIRE (E)	1
29,	3-0033-612	ASS'Y BRACKET HANGER	1
30,	1-0033-104	LEVER EJECT	1
31,	1-0033-106	LOCK ARM (B)	1
32,	1-0033-210	IDLE GEAR	1
33,	1-0033-209	GEAR REDUCTION	1
34,	1-0021-601	ASS'Y TENSION	1
35,	3-0033-614	ASS'Y MOTOR	1
36,	1-0033-601	ASS'Y FLYWHEEL	1
37,	1-0033-501	BELT	1
38,	3-0033-616	ASS'Y HOLDER CASSETTE	1
39,	3-0033-615	ASS'Y HANGER	1
40,	1-0033-111	BRACKET HOLDER	1
41,	———	———	—
42,	———	———	—

Ref.No	Part No.	Description	Q'ty
43,	1-0030-705	POWER SWITCH	1
44,	1-0033-306	ROLLER HEAD BASE	1
45,	1-0033-314	COLLAR LOCK ARM	1
46,	1-0033-401	SPG EJECT ARM(A)	1
47,	1-0033-402	SPG PINCH ARM	1
48,	1-0033-403	SPG HEAD BASE	1
49,	1-0033-404	SPG LOCK ARM(A)	1
50,	1-0033-405	SPG LOCK ARM(B)	1
51,	1-0033-406	SPG LEVER EJECT	1
52,	1-0033-407	SPG LEVER PROGRAM	1
53,	1-0033-408	SPG AZIMUTH	1
54,	1-0033-409	SPG STOPPER	1
55,			
56,	———	———	—
57,	———	———	—
58,	2-1000-113-62	MACHINE SCREW FLAT HEAD M1.7x5.5	1
59,	2-1000-122-62	MACHINE SCREW FLAT HEAD M2x3.5	3
60,	2-1000-134-62	MACHINE SCREW FLAT HEAD M2.6x3	1
61,			
62,	2-1000-495-11	PAN (+)SCREW SEMS M2x4	5
63,	1-0033-504	(+) BIND SCREW M2x5	1
64,	1-0033-508	TAPPING SCREW 2.6x8	1
65,	———	———	—
66,	2-1000-608-06	E-RING 1.6x3.2	2
67,	2-1000-605-06	E-RING 2	3
68,	2-1000-609-06	E-RING 2.5	2
69,	2-1000-702-42	POLYSLIDER 1.2x 3xt0.25	1
70,	2-1000-709-42	POLYSLIDER 1.6x 3.2xt0.25	3
71,	2-1000-714-41	POLYSLIDER 2.1x 3.5xt0.25	2
72,	2-1000-715-41	POLYSLIDER 2.1x 4xt0.25	2
73,	2-1000-708-21	POLYSLIDER 1.7x 4xt0.13	1
74,	1-0033-503	LUG PLATE 2.1x12xt0.5	1
75,	1-0033-417	SPG ARM DETECTOR	1
76,	———	———	—
77,	1-0033-413	SPG T.U ARM(R)	1
78,	1-0033-414	SPG T.U ARM(F)	1
79,	1-0033-415	SPG HANGER	1

PARTS LIST GENERAL

Ref.No	Part No.	Description	Q'ty
1		TIGHT SCREW(S) PANHEADM2x4	2
2		TIGHT SCREW(B) PANHEADM2x6	3
3		PANHEAD SCREW M2.6x4	2
4		PANHEAD SCREW M2.6x8	1
5		TIGHT SCREW(S) PANHEAD M2.6x3	2
6		FLAT SCREW(BLACK) M2.6x8	1
7		PANHEAD SCREW M3x4	2
8		BIND SCREW M3x18	2
9		TIGHT SCREW(B) PANHEADM3x6	13
10		FLAT SCREW M3x3.5	4
11		FLAT SCREW M3x6	2
12		FLAT SCREW M3x10	7
13		FLAT SCREW M3x12	1
14		NUT N3	4
15		SPRING WASHER 3	4
16		SPACER 3x3	1
17		VOLUME WASHER&NUT 7	2
18		VOLUME WASHER 3/8	1
19		VOLUME NUT 3/8	1
20		LUG TERMINAL 3	3
21	K-275	CONNECTOR STANTION	2
22	K-281	FRONT FRAME	1
23	K-282	SIDE FRAME(L)	1
24	K-283	SIDE FRAME(R)	1
25	K-273	REAR FRAME	1
26	K-284	DECK COVER	1
27	K-235	UPPER COVER	1
28	K-149	BOTTOM COVER	1
29	K-010	IC HOLDER	2
30	K-299	SUB FRAME	1
31	K-287	HANDLE	1
32	K-195	FRONT ESCUTCHEON ASS'Y(LC1)	1
	K-196	FRONT ESCUTCHEON ASS'Y(LC1X)	1
33	P-202	MANUAL KNOB	1
34	P-201	MONO KNOB	1
35	P-205	KNOBS(1-2,3-4,5-6,BD-SDK,LD-DNR)(LC1)	5
36	P-204	KNOBS(1-2,3-4,5-6.,BD-MTL,LD-DNR)(LC1X)	5
37	P-198	VR KNOB(OUTER)	1
38	P-197	VR KNOB(INNER)	1
39	P-199,200	TONE KNOB(L) (R)	2
40	P-203	A/M KNOB	1
41	P-210	ILLUMINATION TRIM	1

Ref.No	Part No.	Description	Q'ty
42	K-294	LAMP FILTER	1
43	P-208	P.C.B HOLDERM	1
44	K-194	DOOR SPRING	1
45	K-261	CASSETTE DOOR	1
46	P-211	SP BOX(A)	1
47	P-212	SP BOX(B)	1
48	P-206	EJECT KNOB	1
49	P-207	PROGRAM KNOB	1
50		CONNECTOR(FEMALE)	1
51	WK-05	DC SOLENOID	1
52	K-298	PRESET CUSHION	5
53	K-297	INSULATOR	1
54	CDS-33	CASSETTE MECHANISM	1
55		MAIN P.C.B ASS'Y	1
56		TUNER P.c.B ASS'Y	1
57		SWITCH P.C.B ASS'Y	1
58		MAIN VR ASS'Y	1
59		SUB SWITCH P.C.B ASS'Y	1
60		LCD SUB P.C.B.	1
101		PANHEAD SCREW M3x8	2
102		PANHEAD SCREW M3x4	2
103		HEXAGON SCREW M4x12	1
104		WASHER 4	1
105		NUT N4	1
106	E-186	CONNECTOR ASS'Y (LC1)	1
	E-187	CONNECTOR ASS'Y (LC1X)	1
107	K269	BRACKET	1
108	K270	CONNECTOR COVER	1

PARTS LIST ELECTRICAL

[MAIN P.C.B. Ass'y]

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
PC1	S-184	MAIN P. C. B.	1	0
PC1	S-193	MAIN P. C. B.	0	1
IC1	uPC1245V	IC FM IF&DET	1	1
IC2	LA2200	IC SK	1	0
IC3	uPC1227V	IC DK	1	0
IC4	uPD4011	IC ALARM	1	0
IC5, 10, 12	uPD4011	IC OSC, BEEP, SOLENOID	1	1
IC6	uPC1228H	IC TAPE PRE AMP.	1	1
IC7	LA2110	IC FM N. C.	1	1
IC8	LA3376	IC FM MPX	1	1
IC9	LM1894N	IC DNR	1	1
IC11	TC9130P	IC LATCHE	1	1
IC13	uPC1230H2	IC POWER	1	1
IC14	uPD1708G-219	IC PLL	1	1
Q1	2SC2787 (LF,KF,)	TRANSISTOR	1	1
Q2 ~3,6 ~10,12	2SC2785 (JF,HF,)	TRANSISTOR	8	8
Q16~24,30 ~32	2SC2785 (JF,HF,)	TRANSISTOR	11	11
Q36,39 ~42,44	2SC2785 (JF,HF,)	TRANSISTOR	6	6
Q46,51 ~53	2SC2785 (JF,HF,)	TRANSISTOR	2	2
Q4,25~27,37	2SC2785 (JF,HF,)	TRANSISTOR	5	0
Q14,15 ,34 ~35	2SC2785 (JF,HF,)	TRANSISTOR	0	4
Q11,13,28,29	2SA1175 (JF,HF,)	TRANSISTOR	4	4
Q43,45,47,48	2SA1175 (JF,HF,)	TRANSISTOR	4	4
Q5, 38, 49,	2SA1175 (JF,HF,)	TRANSISTOR	3	0
Q33	2SA1175 (JF,HF,)	TRANSISTOR	0	1
Q50	2SC2002 (L, K,)	TRANSISTOR	1	1
Q54	2SD882 (Q)	TRANSISTOR	1	1
D1,9~16,19 ~29	1S1588	DIODE	20	20
D34~41	1S1588	DIODE	8	8
D2~8, 17~18	1S1588	DIODE	9	0
D30, 32	1S1588	DIODE	2	0
D42~45	SR1K-2	DIODE	4	4
D46	1S1885A	DIODE	1	1
Z1~3	HZ-5C3	ZENER DAIODE	3	3
Z4	HZ-9B2	ZENER DAIODE	3	3
Z5	HZ-6A3	ZENER DAIODE	1	1
Z6	HZ-11A2	ZENER DAIODE	1	1

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
L1	14891	FM IF COIL	1	1
L2	LWV-702A	SK COIL	1	1
L3	FL7H472J	INDUCTOR 4.7mH	1	1
L4	#7	CHOKE COIL	1	1
CN1	ILS3PS2T2EF	CONNECTOR 3P	1	1
CN2	ILS4PS2T2EF	CONNECTOR 4P	1	1
H1	E-183	SOCKET WITH WIRE9P	1	1
H2	E-184	SOCKET WITH WIRE8P	0	1
H2	E-185	SOCKET WITH WIRE8P	1	0
C165	0.047F/5.5V	SUPER CAPACITOR	1	1
CF1,2	KBF 10.7MU-NA7	CERAMIC FILTER	2	2
X1	4.5MHZ	X'TAL OSC	1	1
VR1	50Kohm 8φ	SEMI-FIXED RESISTOR	1	1
VR2	5Kohm 6φ	SEMI-FIXED RESISTOR	1	0
VR3	50Kohm 8φ	SEMI-FIXED RESISTOR	1	0
VR4,6	10Kohm 8φ	SEMI-FIXED RESISTOR	2	2
VR5	10Kohm 6φ	SEMI-FIXED RESISTOR	1	0
VR7	10Kohm 8φ	SEMI-FIXED RESISTOR	1	1
VR8	TP960G01Z	TONE VOLUME	1	1
VR16	20Kohm	SEMI-FIXED RESISTOR	1	1
R186,187	1/4W(V) 1ohm	RESISTOR	2	2
R209,210	1/4W(V) 3.9ohm	RESISTOR	2	2
R208	1/4W(V) 3.9ohm	RESISTOR	1	1
R207	1/4W(H) 150ohm	RESISTOR	1	1
R137	1/6W(V) 3.9ohm	RESISTOR	1	1
R5	1/6W(V) 33ohm	RESISTOR	1	1
R114,115	1/6W(V) 47ohm	RESISTOR	2	2
R24	1/6W(V) 56ohm	RESISTOR	1	0
R1,99	1/6W(V) 100ohm	RESISTOR	2	2
R58,59,98	1/6W(V) 180ohm	RESISTOR	3	3
R212,213	1/6W(V) 270ohm	RESISTOR	0	2
R6,11,149,184	1/6W(V) 330ohm	RESISTOR	4	4
R211	1/6W(V) 470ohm	RESISTOR	0	1
R2	1/6W(V) 560ohm	RESISTOR	1	1
R97	1/6W(V) 820ohm	RESISTOR	1	1
R7,95,138,171	1/6W(V) 1Kohm	RESISTOR	4	4
R23,135	1/6W(V) 1.2Kohm	RESISTOR	2	0
R183	1/6W(V) 1.5Kohm	RESISTOR	1	1
R90,91,120,121	1/6W(V) 1.8Kohm	RESISTOR	4	4

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
R130	1/6W (V) 1.8Kohm	RESISTOR	1	0
R47,65,66,79,80,81,92,93	1/6W (V) 2.2Kohm	RESISTOR	8	8
R104,105,107,108,109,112,113	1/6W (V) 2.2Kohm	RESISTOR	7	7
R122,123,157,165,185,225	1/6W (V) 2.2Kohm	RESISTOR	6	6
R37	1/6W (V) 2.2Kohm	RESISTOR	1	0
R20	1/6W (V) 2.2Kohm	RESISTOR	0	1
R82	1/6W (V) 2.7Kohm	RESISTOR	1	1
R44, 110,111, 128	1/6W (V) 3.3Kohm	RESISTOR	4	4
R67, 68	1/6W (V) 3.3Kohm	RESISTOR	0	2
R10, 86	1/6W (V) 3.9Kohm	RESISTOR	2	2
R27	1/6W (V) 3.9Kohm	RESISTOR	1	0
R3,45,48,75,76,77,100,139	1/6W (V) 4.7Kohm	RESISTOR	9	9
R161, 172, 205	1/6W (V) 4.7Kohm	RESISTOR	3	3
R26,28,30,35,131,132,221	1/6W (V) 4.7Kohm	RESISTOR	8	0
R140	1/6W (V) 4.7Kohm	RESISTOR	0	1
R15, 19, 84	1/6W (V) 5.6Kohm	RESISTOR	3	3
R85, 94	1/6W (V) 6.8Kohm	RESISTOR	2	2
R17,89,199,200,201,202	1/6W (V) 8.2Kohm	RESISTOR	6	6
R31, 144	1/6W (V) 8.2Kohm	RESISTOR	2	0
R142, 214, 215	1/6W (V) 8.2Kohm	RESISTOR	0	3
R4,8,12,40,43,46,54,55,56	1/6W (V) 10Kohm	RESISTOR	10	10
R124,159,163,164,	1/6W (V) 10Kohm	RESISTOR	4	4
R21, 22, 133	1/6W (V) 10Kohm	RESISTOR	3	0
R71	1/6W (V) 10Kohm	RESISTOR	0	1
R78, 96	1/6W (V) 12Kohm	RESISTOR	2	2
R9, 60, 61, 72, 73	1/6W (V) 15Kohm	RESISTOR	5	5
R29	1/6W (V) 15Kohm	RESISTOR	1	0
R83	1/6W (V) 22Kohm	RESISTOR	1	1
R218, 219	1/6W (V) 22Kohm	RESISTOR	0	2
R87	1/6W (V) 33Kohm	RESISTOR	1	1
R13	1/6W (V) 39Kohm	RESISTOR	1	1
R25,50,52,53,57,116,117	1/6W (V) 47Kohm	RESISTOR	7	7
R118,119,125,126,141,143	1/6W (V) 47Kohm	RESISTOR	6	6
R145,,146,152,160,169,177	1/6W (V) 47Kohm	RESISTOR	6	6
R181,182,188,191,193,194	1/6W (V) 47Kohm	RESISTOR	6	6
R203, 204	1/6W (V) 47Kohm	RESISTOR	2	2
R32,33,34,102,103,153,154	1/6W (V) 47Kohm	RESISTOR	7	0
R147, 148	1/6W (V) 47Kohm	RESISTOR	0	2
R14	1/6W (V) 56Kohm	RESISTOR	1	1
R74, 158	1/6W (V) 100Kohm	RESISTOR	2	2

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
R102, 103	1/6W (V) 100Kohm	RESISTOR	2	0
R88	1/6W (V) 220Kohm	RESISTOR	1	1
R62,63,173,223,224	1/6W (V) 330Kohm	RESISTOR	5	5
R216, 217	1/6W (V) 330Kohm	RESISTOR	0	2
R178	1/6W (V) 680Kohm	RESISTOR	1	1
R166,167,168,174,175	1/6W (V) 820Kohm	RESISTOR	5	5
R179,195,196,197,198	1/6W (V) 820Kohm	RESISTOR	5	5
R36, 38, 129	1/6W (V) 820Kohm	RESISTOR	3	0
R69, 70	1/6W (V) 820Kohm	RESISTOR	1	2
R39	1/6W (V) 2.7Mohm	RESISTOR	1	0
R162	1/6W (H) 10ohm	RESISTOR	1	0
R64, 156	1/6W (H) 150ohm	RESISTOR	2	2
R206	1/6W (H) 220ohm	RESISTOR	1	1
R106	1/6W (H) 2.2Kohm	RESISTOR	1	1
R20, 37	1/6W (H) 2.2Kohm	RESISTOR	2	0
R101	1/6W (H) 4.7Kohm	RESISTOR	1	1
R127	1/6W (H) 10Kohm	RESISTOR	1	1
R18	1/6W (H) 22Kohm	RESISTOR	1	1
R41,49,51,151,170,189,192	1/6W (H) 47Kohm	RESISTOR	7	7
R134, 190	1/6W (H) 47Kohm	RESISTOR	2	0
R176	1/6W (H) 47Kohm	RESISTOR	0	1
C16	TH 10PF	CERAMIC CAPACITOR	1	1
C120, 121	SL 22PF	CERAMIC CAPACITOR	2	2
C57	KB 100PF	CERAMIC CAPACITOR	1	1
C151	KB 100PF	CERAMIC CAPACITOR	1	0
C63, 68, 69, 70,	KB 270PF	CERAMIC CAPACITOR	4	4
C39, 59, 60	KB 680PF	CERAMIC CAPACITOR	3	3
C36,	KB 820PF	CERAMIC CAPACITOR	1	0
C46,47,91,122,124,125,132,146,	KB 0.001uF	CERAMIC CAPACITOR	8	8
C123	KB 0.001uF	CERAMIC CAPACITOR	1	0
C58	KB 0.0012uF	CERAMIC CAPACITOR	1	1
C65	KB 0.0022uF	CERAMIC CAPACITOR	1	1
C18	KB 0.0022uF	CERAMIC CAPACITOR	1	0
C67	KX 0.0033uF	CERAMIC CAPACITOR	1	1
C87, 88	KX 0.0039uF	CERAMIC CAPACITOR	2	2
C66, 72, 109, 110	KX 0.0068uF	CERAMIC CAPACITOR	4	4
C1, 3	ZF 0.01uF	CERAMIC CAPACITOR	2	2

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
C55,64,78,79,50,51	KX 0.01uF	CERAMIC CAPACITOR	6	6
C95~98,128,130,131,140,166	KX 0.01uF	CERAMIC CAPACITOR	9	9
C26	KX 0.01uF	CERAMIC CAPACITOR	1	0
C129	KX 0.01uF	CERAMIC CAPACITOR	0	1
C76, 77, 83	KX 0.015uF	CERAMIC CAPACITOR	3	3
C42	KX 0.022uF	CERAMIC CAPACITOR	1	1
C53, 54	KX 0.022uF	CERAMIC CAPACITOR	0	2
C2,6,7 ~10,14,15,118,137	ZF 0.022uF	CERAMIC CAPACITOR	10	10
C71, 40	KX 0.033uF	CERAMIC CAPACITOR	2	2
C62, 140	KX 0.047uF	CERAMIC CAPACITOR	2	2
C156	ZF 0.047uF	CERAMIC CAPACITOR	1	1
C84, 146, 150	KX 0.1uF	CERAMIC CAPACITOR	3	3
C35	KX 0.1uF	CERAMIC CAPACITOR	1	0
C19	J 390PF	P.P. CAPACITOR	1	0
C80	J 1000PF	P.P. CAPACITOR	1	1
C23	J 2200PF	P.P. CAPACITOR	1	0
C29	K 0.047uF	MYLAR. CAPACITOR	1	0
C41, 43	M 16V 2.2uF	TANTAL CAPACITOR	2	2
C4, 101~104, 126	4x5 50V 0.1uF	ELEC.CAPACITOR	6	6
C90	4x7 50V 0.1uF	ELEC.CAPACITOR	1	1
C20	4x7 50V 0.1uF	ELEC.CAPACITOR	1	0
C111, 112, 133	4x5 50V 0.22uF	ELEC.CAPACITOR	3	3
C44, 45	4x5 50V 0.47uF	ELEC.CAPACITOR	2	2
C11	4x7 50V 0.47uF	ELEC.CAPACITOR	1	1
C31	4x7 50V 0.47uF	ELEC.CAPACITOR	1	0
C81,82,99,100,119,134	4x5 50V 1uF	ELEC.CAPACITOR	6	6
C94, 116	4x5 50V 1uF	ELEC.CAPACITOR	2	0
C38, 73, 75, 89	4x7 50V 1uF	ELEC.CAPACITOR	4	4
C27	4x7 50V 1uF	ELEC.CAPACITOR	1	0
C155, 156	4x7 50V 1uF	ELEC.CAPACITOR	0	2
C21	4x7 50V 2.2uF	ELEC.CAPACITOR	1	0
C17, 74	4x7 50V 3.3uF	ELEC.CAPACITOR	2	2
C113,114,105,106,113,114,147	4x5 25V 4.7uF	ELEC.CAPACITOR	7	7
C12, 13, 61, 164	4x7 25V 4.7uF	ELEC.CAPACITOR	4	4
C26, 30	4x7 25V 4.7uF	ELEC.CAPACITOR	2	0
C107, 127	4x5 16V 10uF	ELEC.CAPACITOR	2	2
C28, 33	4x7 16V 10uF	ELEC. CAPACITOR	2	0
C160~163	4x7 16V 10uF	ELEC.CAPACITOR	0	4

Ref.No.	Part. No.	Description	Q'ty LCI	Q'ty LCIX
C56	4x7 10V 22uF	ELEC.CAPACITOR	2	2
C158, 159	4x7 10V 22uF	ELEC.CAPACITOR	0	2
C135	4x7 16V 33uF	ELEC.CAPACITOR	1	1
C48, 49	4x7 16V 47uF	ELEC.CAPACITOR	2	2
C32, 37	4x7 16V 47uF	ELEC.CAPACITOR	2	0
C86,136,139,141,142,143,145	4x7 10V 100uF	ELEC.CAPACITOR	7	7
C157	4x7 10V 100uF	ELEC.CAPACITOR	0	1
C52, 144	6x11 16V 100uF	ELEC.CAPACITOR	2	2
C5, 138	6x11 10V 220uF	ELEC.CAPACITOR	2	2
C22, 25, 34	6x11 10V 220uF	ELEC.CAPACITOR	3	0
C152, 153, 154	10x12 16V 470uF	ELEC.CAPACITOR	3	3
C149, 155	10x21 16V 1000uF	ELEC.CAPACITOR	2	2

[VR P.C.B. Ass'y]

PC2	S185A	VR P.C.B.	1	1
IC401	uPC1230H2	IC POWER	1	1
R402, 403	1/4 (V) 1ohm	RESISTOR	2	2
R401	1/6 (V) 2.2Kohm	RESISTOR	1	1
C408	KB 0.001uF	CERAMIC CAPACITOR	2	2
C406, 409	KX 0.1uF	CERAMIC CAPACITOR	2	2
C407	4x7 25V 47uF	ELEC. CAPACITOR	1	1
C401~405	5x11 10V 100uF	ELEC. CAPACITOR	4	4
C404	4x11 16V 100uF	ELEC. CAPACITOR	1	1
VR402	R756D-1434	MAIN VR	1	1

[TONE P.C.B. Ass'y]

PC3	S-185B	TONE P.C.B.	1	1
VR801	TP96G01Z	TONE VR	1	1

[SWITCH P.C.B. Ass'y]

PC4	S-186A	SWITCH P.C.B.	1	1
S501~510	PT-002-B1	TOUCH SWITCH	10	10
PL501~504	18v 26mA	LAMP	4	4
D501	LN222RPH	LED	1	1

[TUNING SUB P.C.B. Ass'y]

PC5	S-187	SWITCH P.C.B.	1	1
S601~604	PT-002-C1	TOUCH SWITCH	4	4

[LCD P.C.B. Ass'y]

PC6	S-188	LCD P.C.B.	1	1
PL601	18V 40mA	LAMP	2	2

Ref.No	Part No.	Description	Q'ty LCI	Q'ty LCIX
[SOLENOID P.C.B. Ass'y]				
PC301	S-155-2	SOLENOID P. C. B.	0	1
Q301	2SA1175 (JF, HF)	TRANSISTOR	0	1
Q302	2SA2785 (JF, HF)	TRANSISTOR	0	1
Q303	2SD882 (Q)	TRANSISTOR	0	1
D303	US-1040	DIODE	0	1
D304	SR1K-2	DIODE	0	1
R301	1/4W(V) 10Kohm	RESISTOR	0	1
R302	1/4W(V) 33Kohm	RESISTOR	0	1
R303	1/4W(V) 47Kohm	RESISTOR	0	1
R304	1/4W(H) 820Kohm	RESISTOR	0	2
[CD P.C.B. Ass'y]				
PC402	S-159	CD P. C. B.	1	1
J401	HSJ-0863-01-410	CD JACK3. 5φ	1	1
C401, 402	5x11 4. 7uF	ELEC. CAPACITOR	2	2
C403, 406	5x11 47uF	ELEC. CAPACITOR	2	2
C404	6x11 100uF	ELEC. CAPACITOR	1	1
C405	(B) 0. 001uF	CERAMIC CAPACITOR	1	0
[SUB P.C.B. Ass'y]				
PC401	S-158	SUB P. C. B.	2	1
Q401~404	2SC2785 (JF, HF)	TRANSISTOR	0	2
D401~404	US1040	DIODE	2	2
R401	1/6W(V) 33ohm	RESISTOR	3	1
R402	1/6W(V) 10Kohm	RESISTOR	1	1
R403~405	1/6W(V) 47Kohm	RESISTOR	2	0
R406, 407	1/4W(V) 5. 6Kohm	RESISTOR	1	0
R 408,409,418	1/4W(V) 10Kohm	RESISTOR	4	2
R410, 411	1/4W(V) 39Kohm	RESISTOR	2	2
R412~414	1/4W(V) 47Kohm	RESISTOR	1	3
R415	1/4W(V) 100Kohm	RESISTOR	1	0
R416, 417	1/4W(H) 10Kohm	RESISTOR	3	1
[CASSETTE DECK Ass'y]				
E-071	SOCKETwithWIRE	3P	1	1
E-121	SOCKETwithWIRE	7P	1	1
E-111	PILOT LAMP with WIRE		1	1
S084	DECK P. C. B.		1	1
R501	1/4W(H)	RESISTOR	1	1
C501	5x11 16V 10uF	ELEC. CAPACITOR	1	1

Ref. No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
[SWITCH P.C.B. Ass'y]				
PC201	S-154	SWITCH P.C.B.	1	1
PC202	S-152	SWITCH F.P.C.	1	1
PC203	S-137	SWITCH F.P.C. (LCD)	1	1
S201~205	PS-150-A22S	PUSH SW. (LOCK)	4	5
S206~208	PS-150-A22N	PUSH SW. (NON LOCK)	2	1
S209~216	PT-002-B1	TOUCH SWTCH	8	8
VR301, 302	EVJ-V2AF15B24	BASS/TRE. VR.	2	2
D301, 302	SG815T	LED (GREEN)	2	2
D303	SG415T	LED (AMBER)	1	0
D304	SR615C	LED (RED)	0	1
PL201~203	14V 40mA	PILOT LAMP (NON CAP)	3	3
PL204~207	18V26mA	PILOT LAMP (NON CAP)	4	4
R301	1/6W(H) 2.2Kohm	RESISTOR	1	1
R302	1/6W(V) 4.7Kohm		1	0
E-142	SOCKETWITHWIRE	4P	1	1
E-143	SOCKETWITHWIRE	BASS/TRE. (R)	1	1
E-144	SOCKETWITHWIRE	BASS/TRE. (L)	1	1

[TUNER P.C.B.Ass'y]

Ref.No.	Part No.	Description	Q'ty LCI	Q'ty LCIX
PC106	S-089	TUNER P.C.B.	1	1
IC701	uPC1215V	IC uPC1215V	1	1
Q709, 713, 714	2SK193 (P.K)	FET 2SK193 (P.K)	3	3
Q701, 702	2SK315 (E.F)	FET 2SK315 (E.F)	2	2
Q703 ~708,711,712	2SC2785 (L.F)	TRANSISTOR	7	8
Q710	2SC278 (L.F)	TR. 2SC1674 (L)	1	1
D703 ~706,708,709,714,715	US1040	DIODE US1040	7	8
D701, 702, 707	US1040	DIODE SVC321 (C.D)	3	3
D710~713	US1040	DIODE SV203	4	4
CF701	SFP450H	CERAMIC FILTER	1	1
CF702	CFM-450Z	CERAMIC FILTER	1	1
T701	576-034	MW ANT. COIL	1	1
T702	576-048	LW ANT. COIL	0	1
T703	576-035	MW RF COIL	1	1
T704	576-049	LW RF COIL	0	1
T705	576-051	MW OSC COIL	1	1
T706	576-050	450KHz	1	1
T707	576-053	FM ANT. COIL (B)	1	1
T708	576-052	FM ANT. COIL (B)	1	1
T709	576-054	FM RF COIL (A)	1	1
T710, 711	576-055	FM RF COIL (B)	2	2
T712	576-047	FM IF COIL	1	1
T713	576-057	FM OSC COIL (B)	1	1
T714	576-056	FM OSC COIL (A)	1	1
T715	FL4H-4R7K	MICRO INDUCTOR 4.7uH	1	1
T716	LAL 3NA2R2	MICRO INDUCTOR 2.2uH	1	1
CN105	ILS9P-S2T2-EF	CONNECTOR BASE 9P	1	1
CN106	ILS8P-S2T2-EF	CONNECTOR BASE 8P	1	1
TC701, 702, 704	CV 5D2001	TRIMMER CAPACITOR 20PF	3	3
TC703	CV05E5001	TRIMMER CAPACITOR 50PF	1	1
R747	1/4W 47ohm	RESISTOR	1	1
R704,740,745,746	1/4W 100ohm	RESISTOR	4	4
R708	1/4W 330ohm	RESISTOR	1	1
R703, 732	1/4W 1Kohm	RESISTOR	2	2
R705,710,711,728,735	1/4W 2.2Kohm	RESISTOR	4	5
R739	1/4W 2.7Kohm	RESISTOR	1	1

ALIGNMENT INSTRUCTIONS

EQUIPMENT REQUIRED

1. AM Standard Signal Generator
2. FM Standard Signal Generator
3. Stereo Signal Generator
4. Oscilloscope
5. SSVM (Output Meter)
6. DC Power Supply
7. DC Volmeter
8. ARI Signal Generator
9. Frequency Counter

IMPORTANT

1. Non-ferrous tools should be used this alignmnt.
2. Signal should be kept as low as possible to avoid clipping.
3. 400Hz modulation with 30% amplitude is to be used for AM standard modulator (1KHz with 40KHz deviation for FM 75KHz=100%)
4. Output impedance to generator should match impedance of dummy antenna.

TUNER ALIGNMENT PRE-SETTING

Pre-setting of the frequency at each adjustment point will make the tuning for easier adjustment.

MW Frequency to be pre-set: 522KHz, 603KHz, 1404KHz, 1620KHz

FM Frequency to be pre-set: 87.5MHz, 96.0MHz, 108MHz

LW Frequency to be pre-set: 167KHz, 281KHz

STANDARD ADJUSTMENT CONDITION

a. Power Supply ——— 14.4V DC
b. Band Selector switch ——— LW, MW or FM
c. Tone control ——— Flat
d. Blance control ——— Center
e. Volume ——— Adjust to get 1.0W power output level.
f. Load impedance ——— 4 Ohm

ALIGNMENT POINTS

(TUNER P.C.B.)

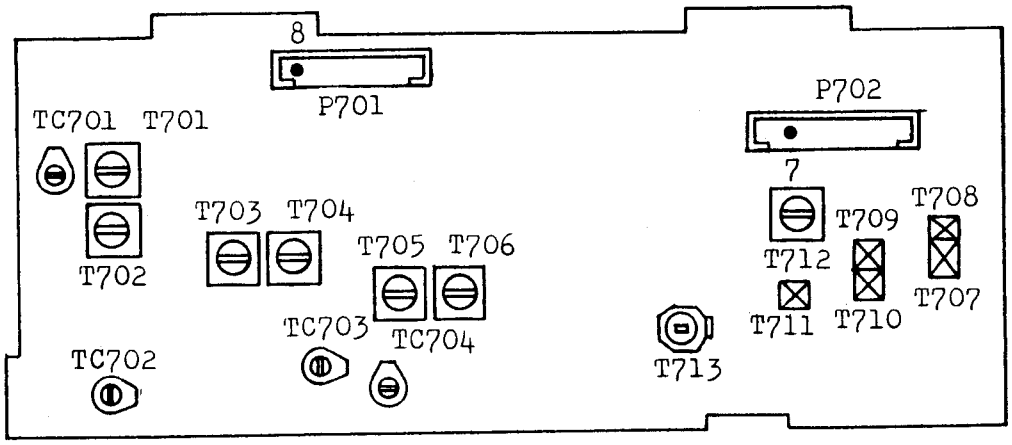


Fig. 1

(MAIN P.C.B.)

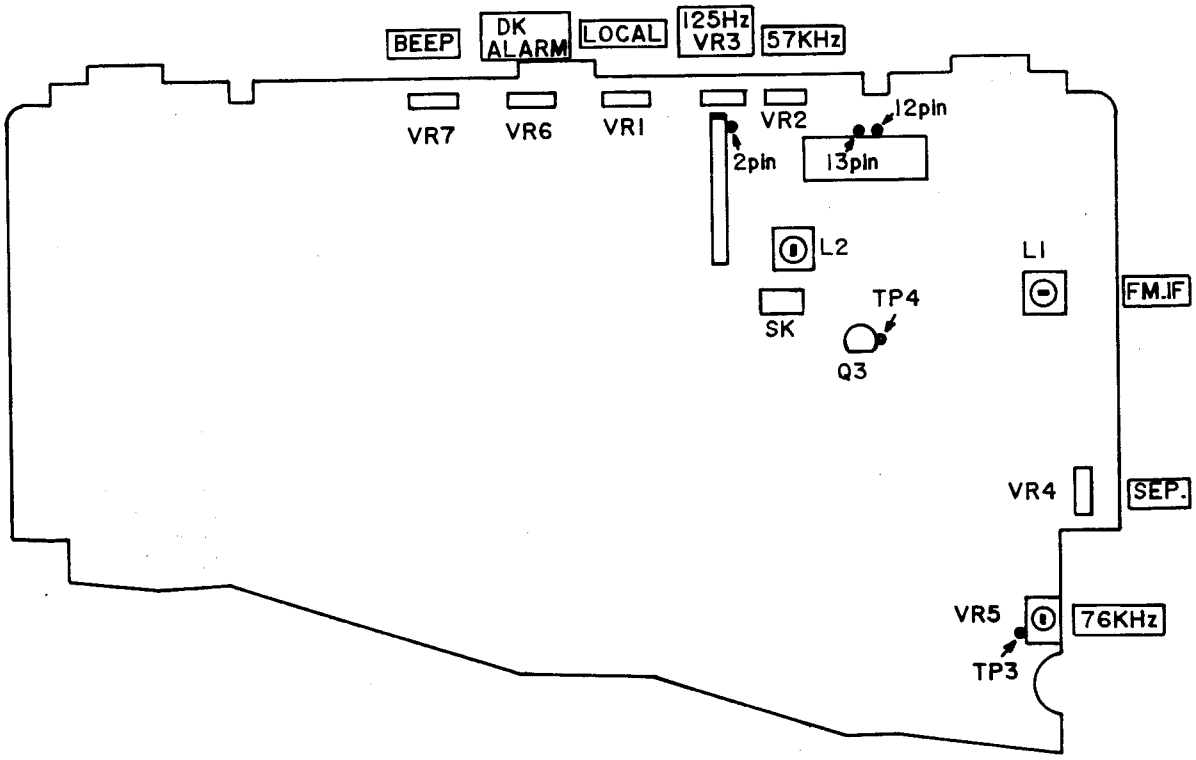


Fig. 2

ALIGNMENT PROCEDURE MAIN P.C.B.

FM I F

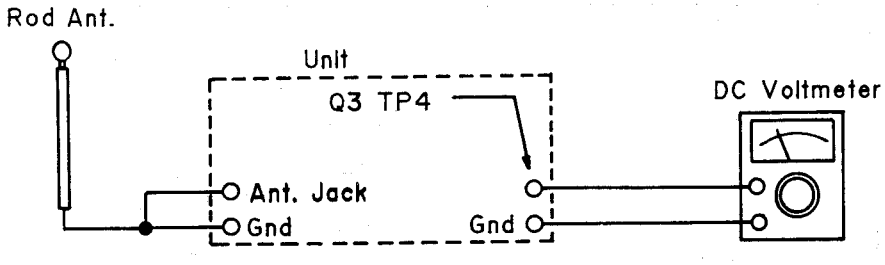


Fig. 3

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Adjustment
I F -3dB limiting sens.	Fig. 2,3 Fig.12	—	Broadcast Signal SG	Adjust L1 for DC Voltmeter indicates minimum VR 16

FM MPX VCO

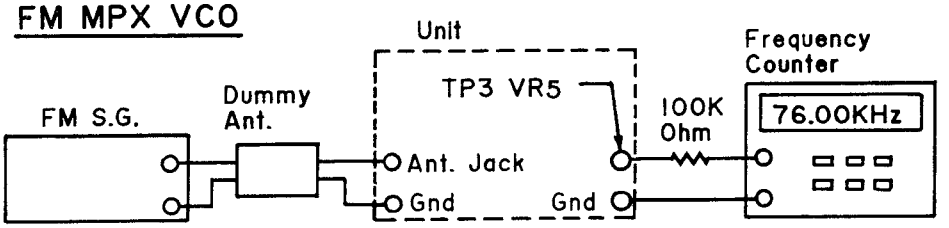


Fig. 4

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Adjustment
MPX VCO	Fig. 2,4	—	96.0MHz (1mV)	Adjust VR5 for 76KHz ±500Hz

FM MPX SECTION

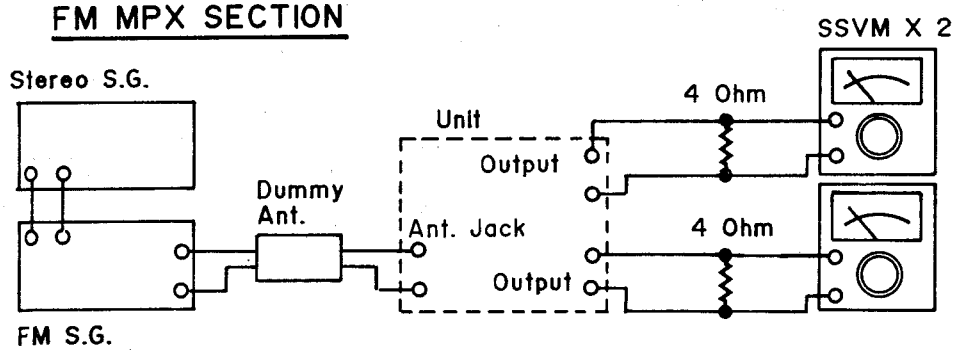


Fig. 5

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Adjustment
Separation	Fig. 2,5	—	96.0MHz 1mV Output (R-ch:Non Mod.)	Adjust VR4 Minimum R-ch Output

SK VCO

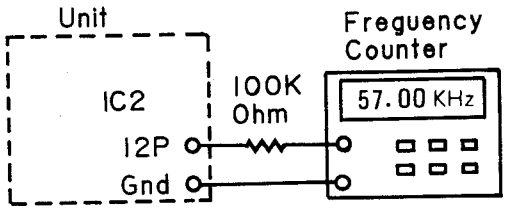


Fig. 6

DK VCO

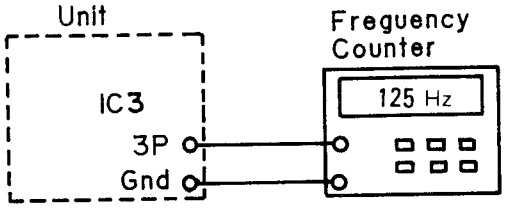


Fig. 7

Circuit Alignment	Equipment Connection	Step	Band	Adjustment
SK VCO	Fig. 2,6	—	SDK Position	Adjust VR2 for 57KHz ±0.5KHz
DK VCO	Fig. 2,7	—	SDK Position	Adjust VR3 for 125Hz ±0.5Hz
DK LEVEL	Fig. 2		SDK Position	VR 6

SK LEVEL

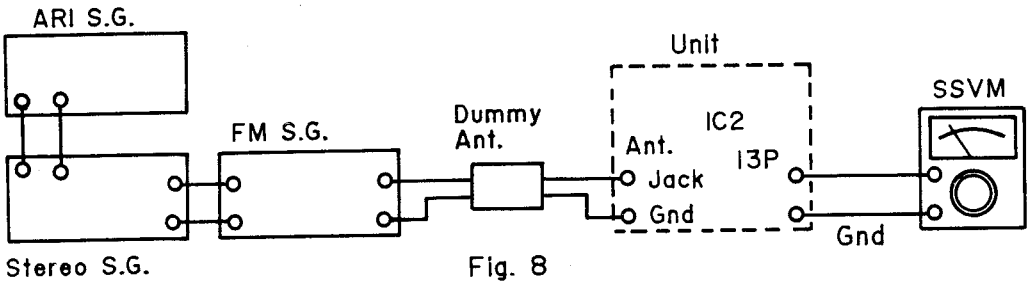


Fig. 8

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Adjustment
SK Level	Fig. 2, Fig. 8	—	96MHz 57KHz Mod	Adjust L 1 for SSVM indicate maximum

FM TUNING VCO

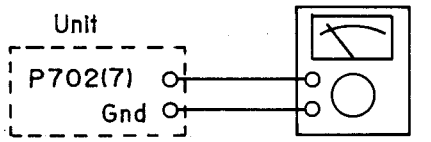


Fig. 10

MW(LW) TUNING VCO

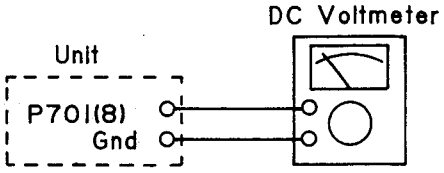


Fig. 11

FM TRACKING

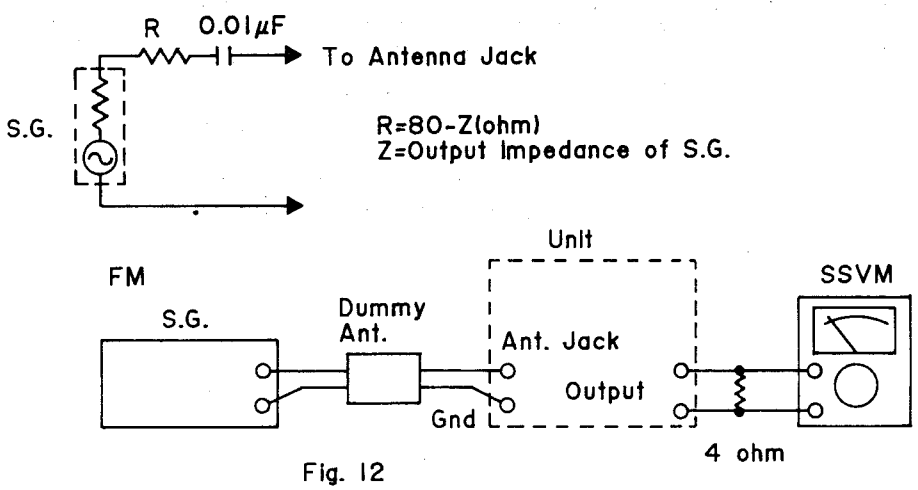


Fig. 12

MW(LW) IF/TRACKING

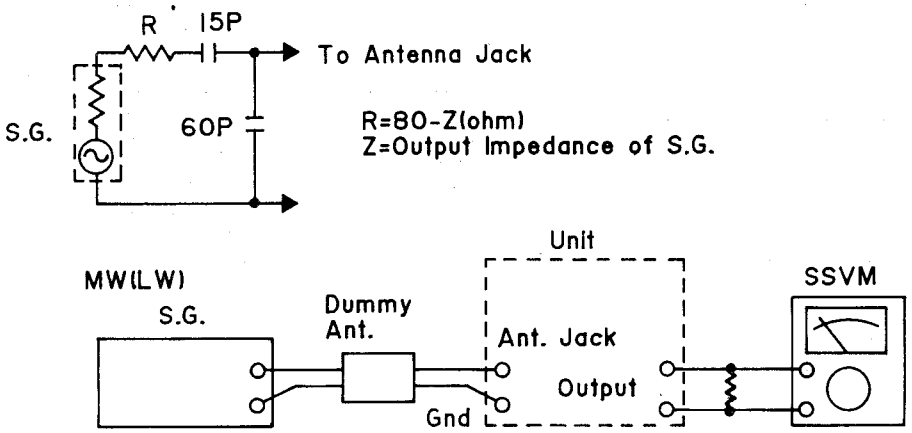
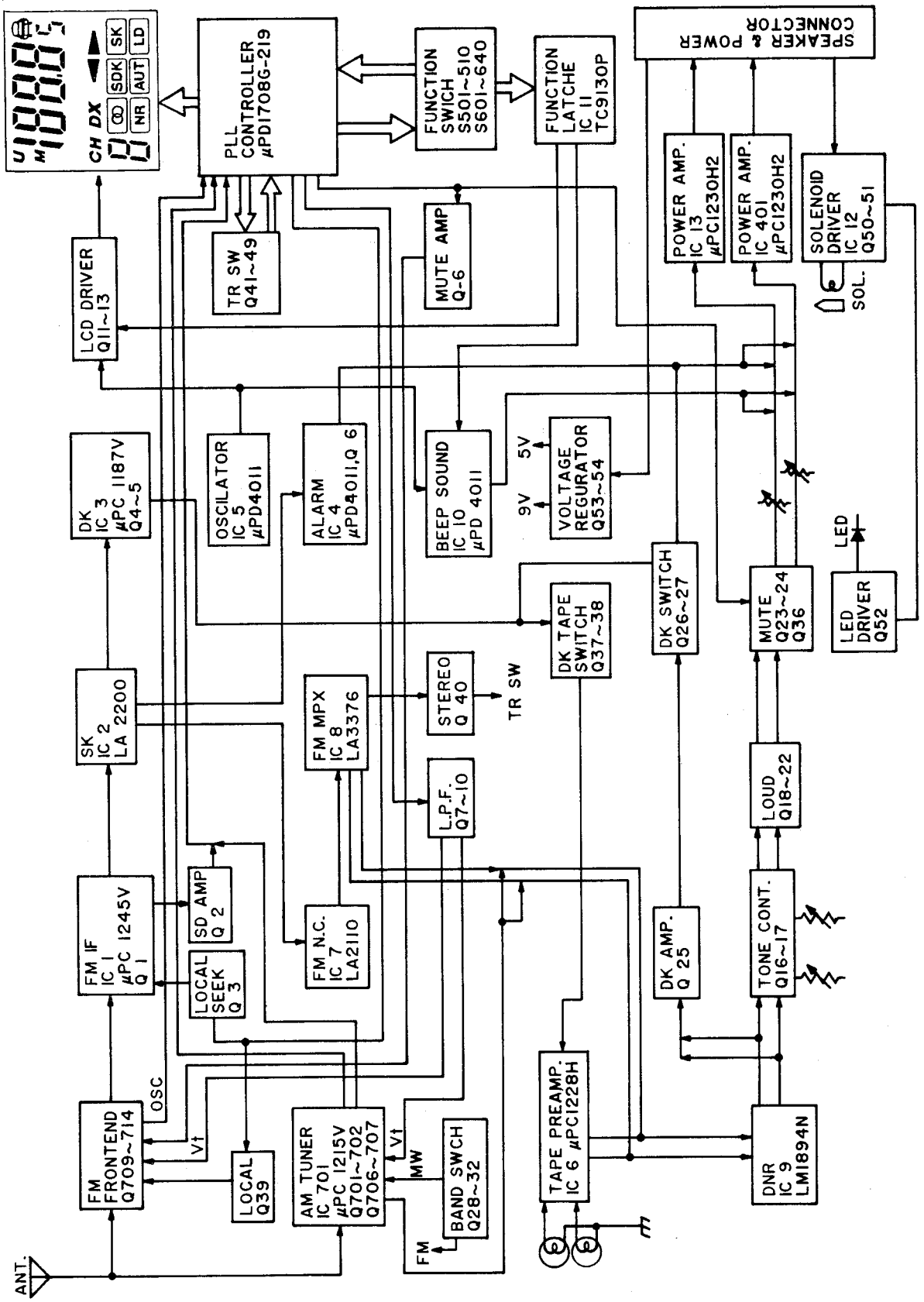


Fig. 13

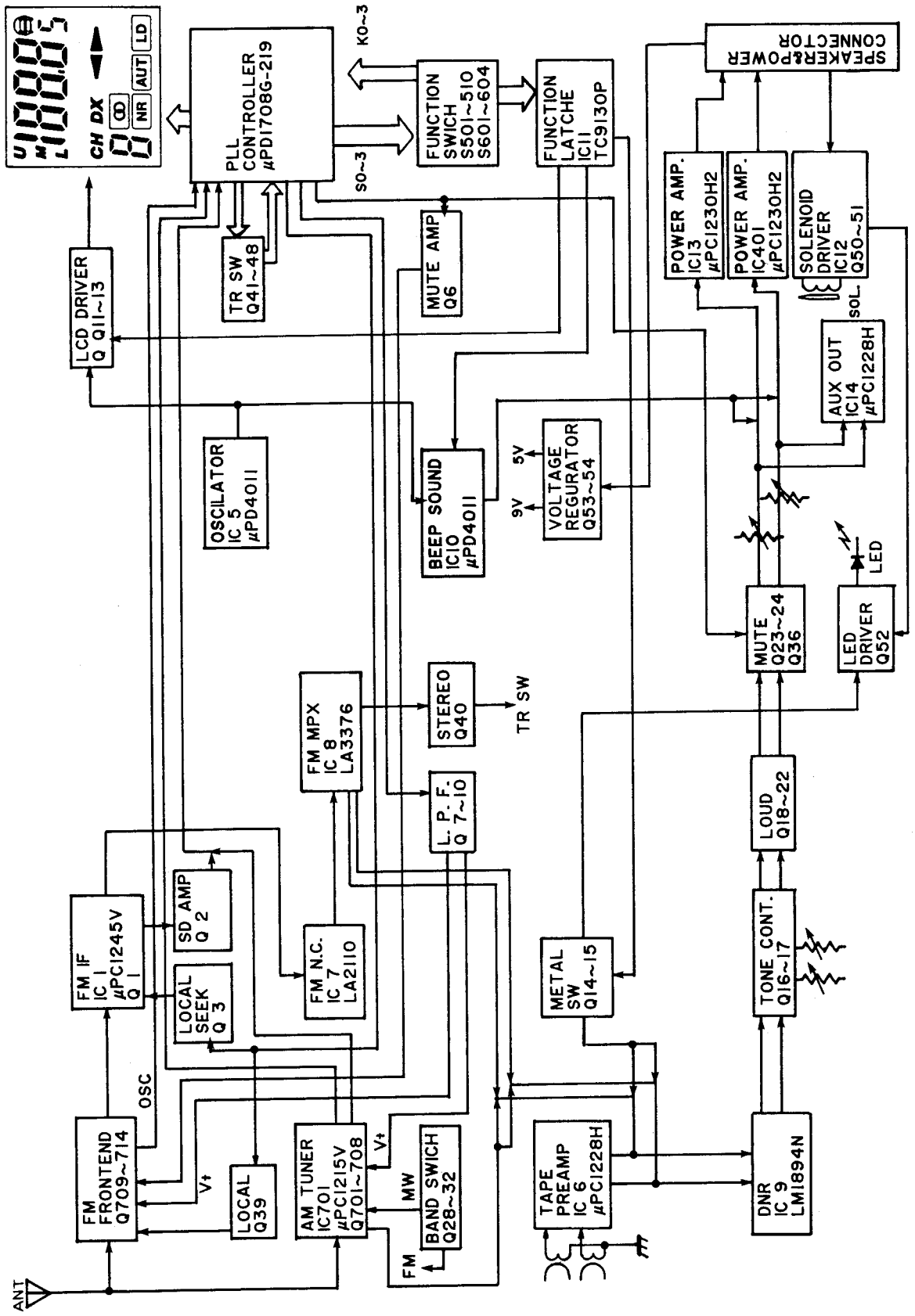
CIRCUIT ALIGNMENT	EQUIPMENT CONNECTION	STEP	DIAL SET	ADJUSTMENT
FM Tuning VCO	Fig. 1, Fig. 10	—	108MHz	Adjust T713 for DC Volmeter indicate 8.0V
MW Tuning VCO	Fig. 1, Fig. 11	1	1602KHz	Adjust T705 for DC Volmeter indicate 8.0V
		2	531KHz	Adjust T705 for DC Volmeter indicate 1.2V
		3		Repeat step 2 and 3 seveal times.
LW Tuning VCO	Fig. 1, Fig. 11	—	281KHz	Adjust TC703 for DC Volmeter indicate 8.0V

CIRCUIT ALIGNMENT	EQUIPMENT CONNECTION	STEP	DIAL SET	ADJUSTMENT
FM Tracking	Fig. 1, Fig. 12	—	87.5MHz	Adjust T712, T710, T707, T711 for SSVM indicate maximum.
MW IF	Fig. 1, Fig. 13	—	450KHz	Adjust T706 for SSVM indicate maximum output
MW Tracking	Fig. 1, Fig. 13	1	1404KHz	Adjust TC701, TC702 for SSVM indicate max output.
		2	603KHz	Adjust T701, T703 for SSVM indicate max output.
		3	167KHz	Repaet step 2 and 3 several times.
LW Tracking	Fig. 1, Fig. 13	—		Adjust T702, T705 for SSVM indicate max output.

BLOCK DIAGRAM GXR-LCI



BLOCK DIAGRAM GXR-LCIX



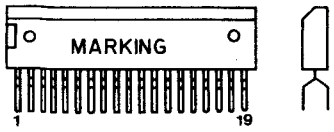
SPECIFICATIONS

ITEM	CONDITION	UNIT	LIMIT	NOMINAL
AM RECEIVER SECTION:				
Frequency Range	Min.	KHz	-	522
	Max.	KHz	-	1620
Intermediate Frequncy	-	KHz	450	450
Maximum Sensitivity	603KHz	uV	40	25
	999KHz	uV	40	25
	1404KHz	uV	40	25
Sensitivity for 20dB S/N	603KHz	uV	40	25
	999KHz	uV	40	25
s/N Ratio	1404KHz	uV	40	25
I.F.Rejection	999KHz	dB	45	47
Image Rejection	1402KHz	dB	42	52
AGC Figure of Merit	999KHz	dB	68	73
Selectivity	999KHz	dB	25	35
Bandwith	-6dB	KHz	11	6.5
Audio Fidelity	Low	Hz	150	120
	High	Hz	2000	2200
10% Output Power	1000KHz	w	15	18
Distortion	1000KHz	%	3	1.3
Whistle Modulation	900KHz	%	3	0.7
FM/MPX RECEIVER SECTION:				
Frequency Range	Min	MHz	-	87.5
	Max	MHz	-	108
Intermediate Frequency	-	MHz	10.7	10.7
Sensitivity for 30dB S/N	90MHz	uV	5.0	2
	98MHz	uV	5.0	2
	104MHz	uV	5.0	2
S/N Ratio	98MHz	dB	45	53
I.F. Rejection	90MHz	dB	50	70
Image Rejection	104MHz	dB	45	60
3dB Limiting Sensitivity (at 1mV Input)	98MHZ	uV	-	5.6
Audio Fidelity-6dB Down	Low	Hz	50	30
	High	KHz	8	10
AM Supression 1MV/10uV	98MHz	dB	35/25	40/30
Output Power	Max	W	20	25
10% THD Output Power	10%THD	W	15	18
Distortion	98MHz	%	3.0	0.8
Current Drain	Max.	mA	-	4400
Stereo Separation 1KHz	98MHz	dB	28	35
Stereo Lamp Sensitivity (ON)	98MHz	uV	-	3.1
DX-LOC Ratio	98MHz	dB	15	20
Time to Start the Alarm	-	sec.	35/25	30
SK Lamp Sensitivity	98MHz	dB	20	18
SK on Off Time	-	sec.	-	0.5/1
DK Amplified Output Power	VR:Min	W	-	0.04
DK On Off Time	-	sec.	-	0.5/1
SK On Mod.	-	%	5.0	3.0
DK On Mod.	-	%	30	25

ITEM	CONDITION	UNIT	LIMIT	NOMINAL
LW RECEIVER SECTION:				
Frequency Range	Min.	KHz	–	153
	Max.	KHz	–	281
Intermediate Frequency	–	KHz	450	450
Maximum Sensitivity	160KHz	uV	71	32
	210KHz	uV	71	32
	270KHz	uV	71	32
Sensitivity for20dB S/N	160KHz	uV	200	112
	210KHz	uV	200	112
	270KHz	uV	200	112
DIAL Calibration	160KHz	KHz	+, -5	–
	210KHz	KHz	+-10	–
	270KHz	KHz	+-10	–
S/N Ratio	210KHz	dB	40	46
I. F. Rejection	160KHz	dB	50	70
Image Rejection	270KHz	dB	60	80
Distortion	210KHz	%	3.0	0.9
10% THD Output Power	210KHz	W	15	18
CASSETTE TAPESECTION:				
Tape Speed	MTT-111 3KHz	%	-2+3	+1.4
Wow/Flutt< JIS RMS	MTT-111 3KHz	%	0.35	0.12
Output Power	MTT-112B 1KHz	W	20	25
10% THD Output Power	MTT-112B 1KHz	W	15	18
S/N Ratio	MTT-112B 1KHz	dB	46	52
Separation	MTT-141B 4KHz	dB	30	40
Track Crosstalk	MTT-121 1KHz	dB	38	43
Channel Balance	MTT-112B 1KHz	dB	+-3	0
Max Noise	MTT-501--	mV	70	50
Min Noise Level	MTT-501--	mV	3	1.5
Frequency Response	MTT-117 125KHz	dB	+-5	-1.5
Current Drain	MTT-112B Max.	mA	–	4700
Distortion	MTT-112B 1KHz	%	2.5	1
Tone Bass Boost	125Hz	dB	–	10
Cut	125Hz	dB	–	10
	125Hz	dB	–	10
Treble Boost	8KHz	dB	–	10
Cut	8KHz	dB	–	10
Loud Effect	125Hz	dB	–	8
	8KHz	dB	–	8

SEMICONDUCTOR & IC BLOCK DIAGRM

μPC 1245V



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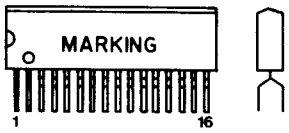

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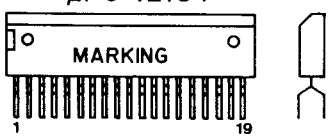

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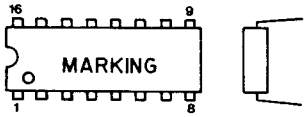

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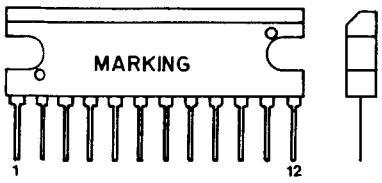

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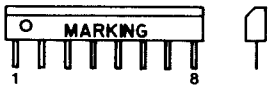

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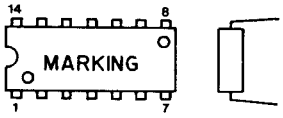

SRIK-2

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HZ 11A2

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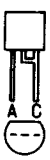
SVC321



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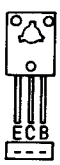

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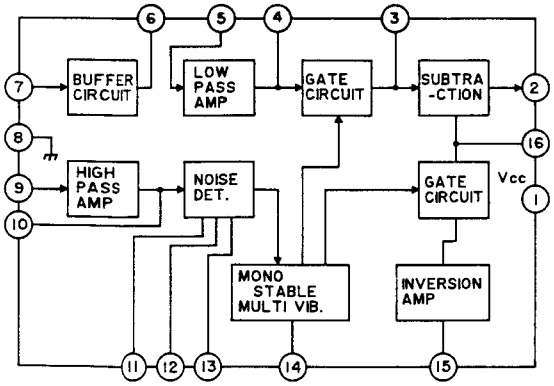

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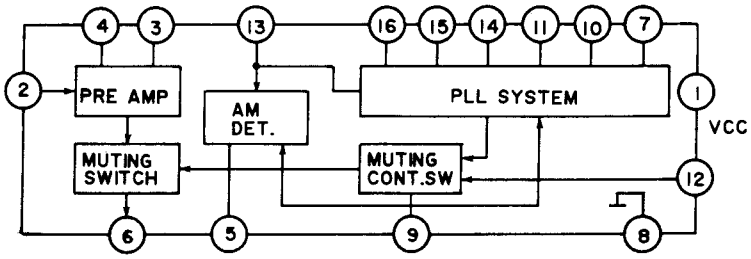

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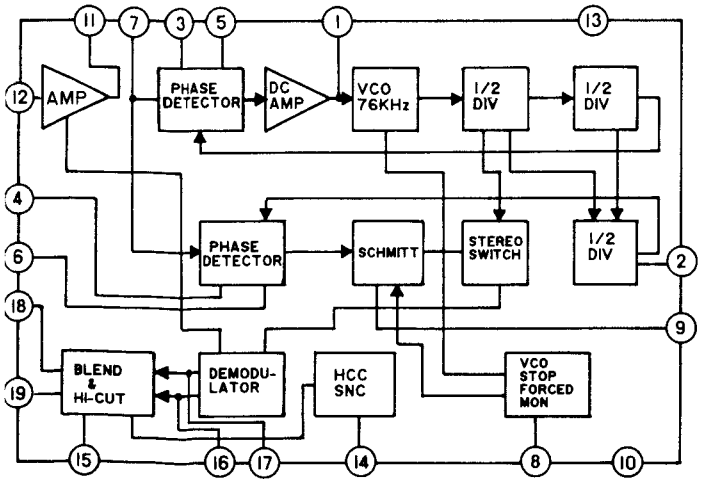

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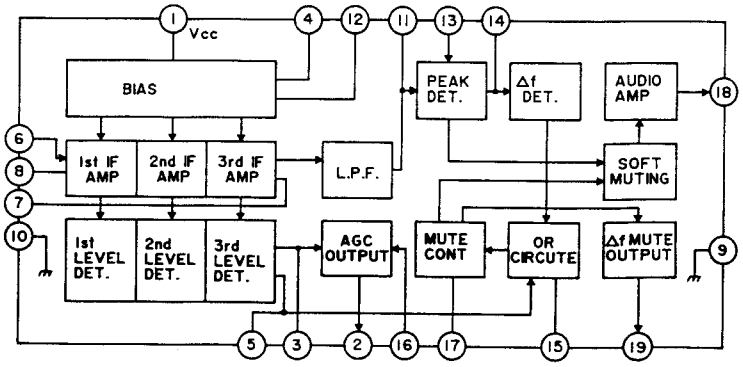

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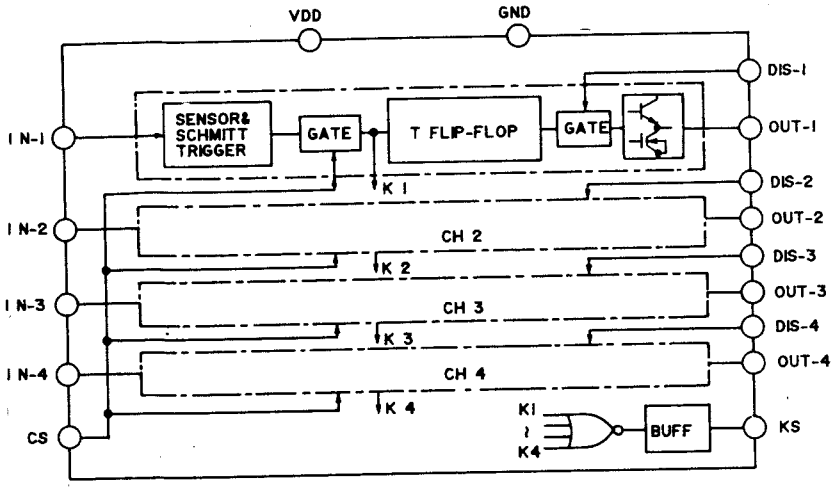

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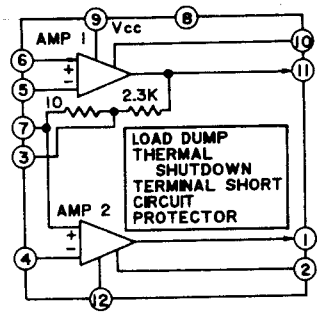

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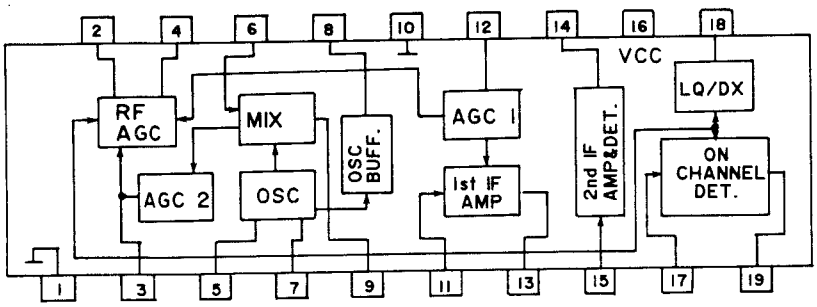

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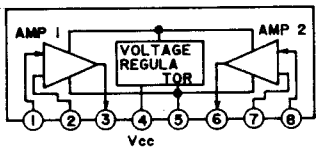

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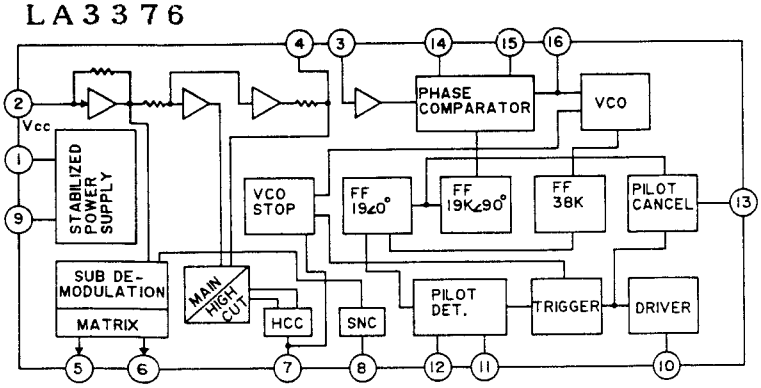

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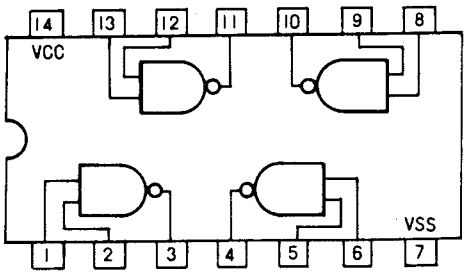

IC \ PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
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2	9.1	2.5	9.1	1.7	7	7	9	0	1.3	2	2	0.7	2	2	2	3	–	–	–
3	2.8	1.2	2	2	2	2	2	0	9.1	0	0	1.2	9.5	–	–	–	–	–	–
4	0	0	5	0	5	5	0	5	5	0	5	1.2	0	5	–	–	–	–	–
5	2.6	2.6	2.6	2.6	2	2	0	2.6	2.6	2.6	2.6	2.6	2.6	5	–	–	–	–	–
6 (TAPE)	1	1	3.6	10	0	3.6	1	1	–	–	–	–	–	–	–	–	–	–	–
7	9	3.5	4.8	4.8	4	4	4	0	1.6	3	2	2.5	3	2.5	0.6	0	4	4.5	
8	9	3.5	3	3	4.8	4.8	0.5	0	0	0	2.8	2.8	0.5	2.8	2.8	2.8	–	–	–
9	9.6	4.5	5	5	4	0.8	0	5	1.2	2.5	5	4.8	4.5	4.8	–	–	–	–	–
10	2.6	0	5	0	1.5	1.5	0	0	0	5	0	1	1	5	–	–	–	–	–
11 OFF	4.6	5	4.6	5	4.6	5	4.6	0	5	4.6	4.8	1	1	1	1	5	–	–	–
11 ON	0		0.5		0		0.5												
12	9.4	0	9	0	9	9	0	9	9	0	9	2	0	9	–	–	–	–	–
13, 401	6.5	13	0	1.2	1.2	0	0	13	13	12	6.5	0	–	–	–	–	–	–	–

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